



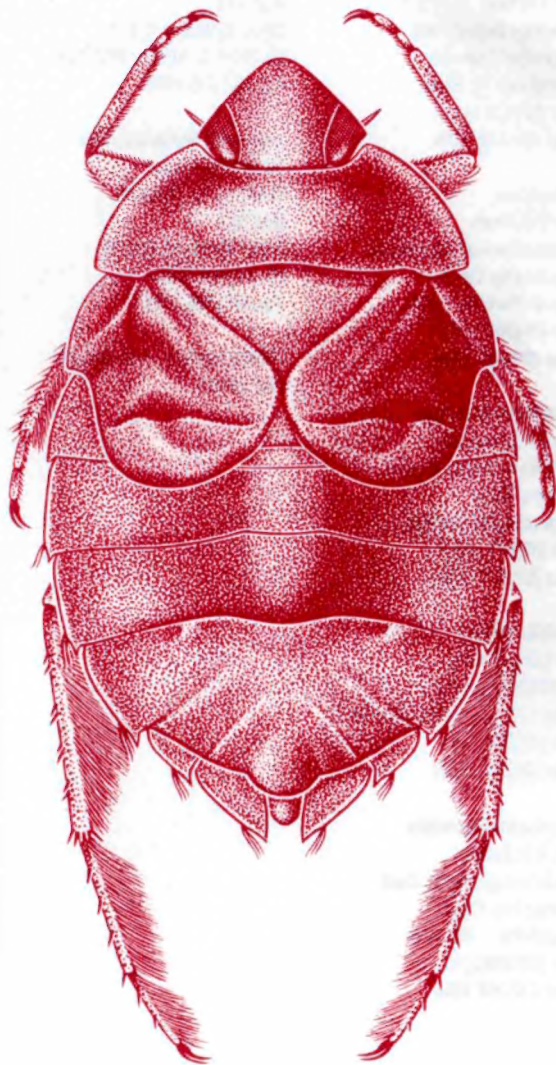
MYRMECIA



News Bulletin of the Australian Entomological Society Inc.

Volume 27, Part 3, August 1991

Reg. by Australia Post; Publication No. QBG3480; Price: \$2



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(Office Bearers continued on
rear cover).

THE COVER

The cover illustration for this year's *Myrmecia* features an illustration from the forthcoming new edition of "Insects of Australia". The illustration is by Dr. S.P. Kim, one of the CSIRO artists who have been working on the numerous new plates for the book. The species shown is *Aphelocheirus australis* Usinger, a member of the family Naucoridae (Hemiptera). This aquatic species occurs rarely in northern Australia. The morph illustrated is brachypterous.

NOTICE

Statements made in *Myrmecia* do not necessarily represent the views of the Australian Entomological Society. Items printed herein should not be reproduced without permission of the author of the material.

Printed by:

All Clear Offset Printers
15 Lamington St
New Farm Qld 4005
Ph (07)3584115



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HAVE YOU A RED STICKER

If the address label of the envelope enclosing this issue of *Myrmecia* has a red sticker then this means that you still have not paid your 1991 Society subscription which fell due on January 1st. You have also missed out on the discount rate which expired at the end of February. It would help the Society if you could submit your overdue subscription promptly to the Treasurer whose address appears below. The current subscription rates are as follows:

Ordinary Members	\$40
Joint Members	\$45
Student Members	\$20
Retired Members	\$20

Mr P.R. DAVIS

A.E.S. Treasurer

c/-Department of Agriculture

Baron-Hay Court

South Perth WA 6151

Advertising Rates for *Myrmecia*

	Single Issue	Four issues (One Year)
Full Page	\$60	\$180
Half Page	\$35	\$105
Quarter Page	\$24	\$72

These rates apply to camera-ready copy supplied by the advertiser. Where this is not supplied a small additional charge may be made for the layout.

In addition, loose inserts and pamphlets supplied by the advertiser will be included in a mailout for \$50 per item. The items should be of a size which will not project beyond the pages of *Myrmecia*.

Copy Deadline for Next issue

Material for publication in the November 1991 issue of *Myrmecia* should be in the hands of the Editor at his address on the inside the front cover by **Friday, October 25**. Fax transmission may be used to (07)8461918 but care should be taken to ensure legibility and hard copy should be posted simultaneously. Material may be submitted on floppy disk. Any common word processor format is acceptable but "Microsoft WORD" is preferable.

NOTES FROM THE PRESIDENT AUDREY YOUNG



Another highly successful Scientific Conference and AGM has just concluded and the first thing to be done in these notes is to thank the Organising Committee, under the leadership of Janet Horne, for all their hard work and the planning and foresight that enabled everyone to have such a great time. The University of Melbourne provided an excellent venue, with a contrast between the modern lecture facilities and the traditional architectural magnificence of Ormond College, and the program, both scientific and social, was everything one could have wished. Thanks also to Seamus Ward for his restaurant "Selections" though I don't believe the (Commonwealth) treasurer will regard his research as tax deductible! Many members noted a strange phenomenon of selective garment shrinkage, with waistbands tightening on exposure to the night air in the vicinity of Lygon Street.

The annual Conference is virtually the only opportunity

for the majority of the Executive members and Councillors to get together and to make decisions on the Society's future directions. Meetings of various compositions started on the Saturday night prior to the meeting and continued at every available opportunity till the final one in the airport coffee lounge on the Friday evening. As a result I believe we are well prepared for the hand-over of the Executive and other responsibilities at the Tasmanian AGM. The formal part of the Society's business is carried out during the year at monthly Executive meetings, and the Annual General Meeting. As I have said before, the Executive welcomes input from the general membership, either directly to the Executive or via Regional Councillors to the Council meetings.

There are a couple of matters arising from the AGM and Council meetings that I want to draw to the attention of those who could not be present, and these matters concern mainly the review of honours and awards of the Society which I undertook during the preceding year. As a result of all this, it is perhaps surprising to report now that virtually no changes have taken place. One of the major issues was a proposal to reduce the age limit for the Mackerras Medal, but in view of the feeling of the AGM, Council decided that there was not support for such a move at this time. We have however, approved the addition of an open illustration competition from 1993, and the Perth executive is appointing a committee to review the guidelines, prizes and eligibility for the illustration competitions. As usual, if you want your views taken into account, let the Executive have them. Both Council and the AGM were firmly of the view that the Society should not become a research institution and should not apply for research grants from outside bodies.

A question was also raised at Council regarding the Phil Carne Prize: are papers that have already been published acceptable? It was agreed that they were, particularly in the context of our new requirement for a declaration from the supervisor regarding the student's performance and independence during the work.

Our next meeting is in Hobart from 1-6 February. This is an unusual date but the organisers didn't seem too keen on the prospect of a meeting in Hobart in July. Let me remind you that everything needs to be organised now for this meeting - your *Myrmecia* is full of nomination forms, entry forms, registration forms and so on. Please act on them and give the Tasmanian Organising Committee a fair go — they

need to know numbers of delegates and contributed papers. Getting the show on the road over Christmas will be difficult enough so please be early! It can't fail to be a high class meeting with an Australian native aphid as its emblem.

Many of us are finding that our conditions of employment are increasingly demanding, and there is no question that life is less flexible and that institutions can be less flexible in matters of funding and time. We are delighted that we have found a group in Adelaide who feel able to take over the role of the core Executive from 1992. The Society must be prepared to support the Executive not only by cooperation but also in material ways. Institutions from which our Officers are drawn should not have to carry any of the Society's costs: we need to move towards a situation where we are paying our own way.

Finally, one of the pleasures of the Melbourne meeting was the release of the Society's Christmas cards. Congratulations and thanks to Sybil Monteith for her attractive and cheerful design. Please make this venture a success by buying and sending AES cards. On the same general topic, the Society still has stocks of the *Directory of Australian Entomology*. How many times do you get asked - "who'd know something about ()?" "Do you know ()'s phone number?" All the answers are in the Directory. Information on ordering these or other Society publications appears elsewhere in this issue, or contact the Business Manager.

Dinah HALES
President

Executive Quarterly Report

MEETINGS

The Executive met on May 14 and June 25, 1991.

MEMBERSHIP

The Executive accepted 11 nominations for membership and elected 15 new members. The distribution of members as at June 1991 is as follows:

Overseas	62	SA	65	QLD	190
NT	15	ACT	120	WA	52
NSW	161	TAS	30	VIC	109
UNKNOWN	5				

Membership by categories is:

Full	632	Joint	24	Student	91
Honorary	4	Retired	58		
TOTAL	809				

NEW MEMBERS

We welcome the following new members:

Elected May 14, 1991

Mr M.C. ARNEY, BA, 5 Collingridge St, Weston, ACT 2611.

Malcolm is a Technical Officer with the ACT Parks and Conservation Service with general interests in entomology.

Miss J.A. BERRY, MSc (Hons), Entomology Division, CSIRO, GPO Box 1700, Canberra, ACT 2601. Jocelyn's entomological interests include the taxonomy of Hymenoptera and biological control.

Mrs K.R. BLANCHE, BSc, BA (Hons), 12 Berkeley Close, Berowa Heights, NSW 2082. Kathleen is a PhD student with interests including insect ecology, seaweed flies and gall forming insects.

Miss T.A. THUMLERT, 6/73 Collins St, Broadview, SA 5083.

Trudy is a final year BA/AgSc student and is interested in insect biology, parasitic Hymenoptera taxonomy and biological control of agricultural pests.

Ms J. WHITNEY, Biol Techn Cert, PO Box 64, YANCO, NSW 2703. Jennifer is interested in biological control, integrated pest management and the control of mite pests of grape vines.

Elected June 25, 1991

Mr J.A. FRIEND, BSc (Agric), Department of Agronomy and Soil Science, University of New England, Armidale, NSW 2351. Joe is a PhD student and is interested in the ecology, biology and management of *Maroga* spp., insect pathology and applied research with neem.

Mr C.N. KABANGEH, BSc (Hons), Dip Agric Ed, Dip Agric St, University of Western Sydney, Hawkesbury-Richmond, 2753. Chanda is a student who is interested in insect pest management programs and pome fruit.

Miss S. KHAN, BSc, Department of Entomology, University of Queensland, St Lucia, QLD 4072. Seemi is an Honours student with interests in the hibiscus flower beetle and ecological studies on diptera and hymenoptera.

Mr D.P. LIOSATOS, 3-52 Greenlan St, Indooroopilly, QLD 4068. Damion is a full time student and is interested in insect pathology.

Mr A.M. SCRIVENER, BSc (Hons), 74 Auburn Road, Birrong, NSW 2143. Andrew is a PhD student who's interests include cellulose digestion in native cockroaches and other insects.

Dr S.O. SHATTUCK, PhD (Entomology), CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT 2601. Steven is a post-doctoral fellow at the Australian National Insect Collection and is interested in the systematics of ants.

Dr M.P. SINGH, PhD, c/- Tej Singh, Advocate, Munsif Court, Deoband 247 554, India. Man Pal is interested in general entomological research.

Mr S.R. SINGH, BSc, DIC, C Biol, M Biol, 5 Weaver St, Erskine Park, NSW 2759. Sat is a PhD student and is interested in population ecology, biological control and general agricultural entomology.

Ms A. TAYLOR, Dip Hort Sci, 29 Karri Rd, Leeton, NSW 2705. Ann is interested in integrated pest management in food crops.

Ms D.S. Van RANGELROOY, Assoc Dip App Sci (Environ Biol), PO Box 43002, Casuarina, NT 0811. Debbie's interests include bio-control, general curation and extension.

Mr S.C. BARKER becomes Dr S.C. Barker.

Ms F.A. BERLANDIER, c/- Entomology Branch, Department of Agriculture, Baron-Hay Court, South Perth, WA 6151. Dr R.A. BRADLEY, corrected initials.

Dr K.R. BROWN, Department of Applied Biology, University of Technology, Sydney, Westbourne St, Gore Hill, NSW 2065.

Mr B. CANDUSIO, Lot D5G, Redburns RSD, Heathcote, VIC 3523.

Mr J. DeBARRO, PO Box 424, Keith, SA 5267.

Dr G.S. FARRELL, Tropical Ecosystems Research Centre, CSIRO, PMB 44, Winnellie, Darwin, NT 5789.

Mr R.H. GREEN resigns from membership.

N. HIVES, Biological and Chemical Sciences, Ballarat University College, PO Box 663, Ballarat, VIC 3353.

Dr M.J. KOKKIN, Pharmacy Department, University of South Australia, North Tce, Adelaide, SA 5000.

L.S. KUNIATA, Ramu Sugar Ltd, PO Box 2183, Lae Papua New Guinea.

Mr R.M. LARDNER, Department Crop Protection, Waite Agricultural Institute, Glen Osmond, SA 5064.

S. LAWSON, corrected address is 1-1-1 Yayoi.

Mr C. LOKKERS, Anton Breinl Centre, James Cook University, Townsville, QLD 4811.

Dr M.B. MALIPATIL, Entomology Section, Institute of Plant Science, Swan St, Burnley, VIC 3121.

Mr J. McDONALD, Entomologist, NSW Agriculture and Fisheries, North Coast Agricultural Institute, Wollongbar, NSW 2480.

Ms D. RAE, Zoology Department, Biological Sciences, James Cook University, Townsville, QLD 4811.

Mr G.B. SMITH, corrected address is Pflanzenschutzzentrum.

Mr G.J. SNOWBALL, corrected postcode is 2251.

Mr M.E. SPARKS, 73 Carrington St, Narara, NSW 2250.

Mr J. TURNBULL, 21 Falmer St, Abbotsbury, NSW 2176.

Mr C.A.P. URQUHART, Forestry Commission of NSW, WT & FRD Entomology Section, PO Box 100, Beecroft, NSW 2119.

Mr G.A. WEBB, 32 Cook St, Caringbah, NSW 2229.

Changes of address or title

S. ASANTE, corrected Armidale postcode is 2351.

Dr J.K. BALCIUNAS, Tropical Resource Centre, James Cook University, Townsville, QLD 4811.

Australian Entomological Society

NOTICE OF THE 23RD ANNUAL GENERAL MEETING

The Society's 23rd Annual General Meeting will be held in Hobart on Tuesday, 4th February, 1992. The agenda will be in the November issue of "Myrmecia".

Call for Nomination of Office Bearers and Councillors

The following offices will fall vacant at the Society's 23rd Annual General Meeting on 4th February, 1992. Nominations for election should be made on the form adjacent and should reach the Secretary no later than December 27, 1991.

VACANT OFFICE		PRESENT INCUMBENT
President	o	Assoc Prof D.F. Hales
Vice President	o	Dr T.J. Ridsdill-Smith
Secretary	o	Assoc Prof J.D. Majer
Treasurer	o	Mr P.R. Davis
Public Officer	*	Dr I.D. Naumann
Chief Editor	*	Dr P.G. Allsopp
Business Manager	*	Dr J.F. Donaldson
News Bulletin Editor	*	Dr G.B. Monteith
Technical Editors	*	Dr G.G. White
	*	Dr I.D. Naumann
	*	Dr A.L. Bishop

Regional Councillors

QLD	o	Mr D.H. Foley
	*	Mr B. Franzmann
	o	Mr R.I. Storey
NSW	*	Mr R.J. Faulder
	*	Dr S. McEvey
	*	Mr J.G. Clancy
VIC	o	Mrs J.A. Horne
	*	Dr A. Yen
ACT	*	Dr S. Shattuck
	o	Dr E.J. Wright
SA	*	Dr A.D. Austin

TAS	*	Dr T. Kingston
WA	*	Mr J. van Schagen
NT	*	Mr P. Dostine

Representative Councillors

Ent. Soc. QLD	x
Ent. Soc. NSW	x
Ent. Soc. VIC	x

o not eligible for re-nomination

* requires re-election

x to be nominated by the Societies

Please Note: Only members resident in South Australia are eligible for nomination to the offices of Vice-President, Secretary and Treasurer. The Public Officer must be a resident of the A.C.T.

Nomination of Office Bearer

(This completed form should reach the Secretary by
27th December, 1991)

I Nominate:

for election to the office of:

Name of nominator:

Signature

Date:

Appointment of Proxies

Australian Entomological Society Incorporated

(This completed form should reach the Secretary prior
to the meeting(s) concerned)

I, ...

of

being a member of the above-named Society, hereby

appoint

of

as my proxy to vote for me on my behalf at the Council
Meeting, Annual or Special General Meeting, as the
case may be, of the Society, to be held on the 8th-13th
February, 1992.

Signed this

day of 19

(Signature)

(a photocopy of this form may be used).

Annual Report, July 1991

THE AUSTRALIAN ENTOMOLOGICAL SOCIETY INC.

The Executive is pleased to present the Society's Twenty Second Annual Report for the period June 1990 to June 1991.

Executive Meetings

The Executive met on 12 occasions. Meetings were also attended by the Assistant Secretary, the Assistant Treasurer and the WA Regional Councillor.

Officers, Councillors and Executive Appointments

EXECUTIVE OFFICERS:

President	Assoc Prof D.F. Hales
Vice President	Dr T.J. Ridsdill-Smith
Secretary	Assoc Prof J.D. Majer
Treasurer	Mr P.R. Davis
Public Officer	Dr I.D. Naumann
Chief Editor	Dr P.G. Allsopp
Business Manager	Mr J.F. Donaldson

OTHER COUNCILLORS:

Technical Editors	Dr A.L. Bishop
	Dr I.D. Naumann
	Dr G.G. White
News Bulletin Editor	Dr G.B. Monteith

REGIONAL COUNCILLORS:

QLD	Mr D.H. Foley
	Mr B. Franzmann
	(from Nov. 1990)
	Mr R.I. Storey
NSW	Dr D.G. James
	Ms M. Geary
	Dr D.J. Bickel
ACT	Dr P. Cranston
	Dr E.J. Wright
VIC	Mrs J.A. Horne
	Dr G. Farrell
	(to Nov. 1990)
	Dr A. Yen
	(from Mar 1991)
TAS	Mr L. Hill
SA	Dr A.D. Austin

WA	Mr J. van Schagen
NT	Mr P. Dostine

REPRESENTATIVE COUNCILLORS:

Entomological Society of QLD ...	Mr G. Daniels
Entomological Society of NSW ..	Dr G. Brown
Entomological Society of VIC	Mr M. Hunting

EXECUTIVE APPOINTMENTS:

Assistant Secretary	Mr R.N. Emery
Assistant Treasurer	Dr D. Yeates
	(to Aug 1990)
	Dr I. Dadour
	(from Sept 1990)
Assistant News Bulletin Editor ...	Mr G.I. Thompson
Editorial Assistant	Mrs J. Allsopp

CONSERVATION COMMITTEE:

Ms P. Greenslade (Convenor)	Dr T.R. New (VIC)
Dr E.G. Matthews (SA)	Dr B.Y. Main (WA)
Dr A.N. Andersen (NT)	Mr L. Hill (TAS)
Dr J.M.E. Anderson (NSW)	Prof R.E. Jones (QLD)

MARKETING PROMOTIONS COMMITTEE:

Dr I.D. Galloway (Convenor)	Dr R. Wylie
Dr P. McFadyen	Mr J.F. Donaldson

EDITORIAL BOARD:

Dr B.P. Moore (retired during year)	
Dr R. Domrow (retired during year)	
Dr G.H.S. Hooper (retired during year)	
Prof R.L. Kitching (retired during year)	
Dr I. Abbott	Dr B.R. Champ
Assoc Prof D.F. Hales	Dr K.L.S. Harley
Assoc Prof F.J. McDonald	Dr M.J. Rice
Dr T.C.R. White	
Dr P.T. Bailey (from Feb 1991)	
Dr W.J. Bailey (from Feb 1991)	
Dr B.K. Cantrell (from Feb. 1991)	
Dr M.J. Fletcher (from Feb 1991)	
Mr D.J. Rogers (from Feb 1991)	
Dr R.C. Russell (from Feb 1991)	

22ND AGM ORGANISING COMMITTEE:

Mrs J. Horne (Convenor)	Mr P. Horne
Dr T.R. New	Dr M.B. Malipatil
Dr J. Woodward	Dr A. Yen
Mr A. Henderson	

23 AGM ORGANISING COMMITTEE:

Mrs M.A. Williams (Convenor)	Dr J.L. Madden
Mr P.B. McQuillan	Dr H.J. Elliott
Dr T. Kingston	

SUSTAINING ASSOCIATES:

Australian Entomological Supplies	
Shell Chemical (Aust) Ltd	Bayer Australia Ltd
Cyanamid Australia Pty Ltd	Ciba Geigy Ltd
Dow Chemical (Aust) Ltd	ICI Australia Ltd

Membership

The Society's membership continued to increase with 43 new members enrolled. After resignations and the striking-off of unfinancial members, membership increased by 14, bringing our total number to 809. There are now 632 full members, 91 student members, 58 retired members, 24 joint members and 4 honorary members.

The Executive recorded with regret the deaths of Dr J.W. Evans, Mr K.J. Houston, Mr D. McArdle, Assoc Prof D.J. Lee, Mr R.K. Kassulke and Mr E.J. Martyn.

Australian Entomological Society Research Grants

Grants for three new projects were awarded at the previous AGM. These were:

Dr Robyn GUNNING — Ben Hall's Gap invertebrate survey (\$400)

Ms Penny GREENSLADE — Preparation of coloured illustrations of Collembola (\$1200)

Dr Christine STONE — Visit to Tasmania to investigate insect problems in eucalypt plantations (\$450)

The third round of applications has now been assessed by the panel of referees. The successful applicants are:

Dr Ross FIELD — Life history studies and species determination on *Ogyris idmo* Hewitson (Lepidoptera: Lycaenidae) complex in WA (\$4,000)

Mr Stephen ASANTE — Population dynamics of the woolly apple aphid (\$1,404)

Mr Geoff WILLIAMS — Study of invertebrate faunas in lowland rainforests (\$446)

Biological Illustration Competition

Over 100 entries were received. These have been assessed by a panel convened by Dr Terry HOUSTON of the WA Museum and the winning entries are:

Colour section: First prize — Michael J. BAMFORD, 23 Plover Way, Kingsley, WA 6026. A long-horned grasshopper (Tettigoniidae) from Broome, WA. Second prize — Sonya NAUMOV, 3 Anchor Ave, Toukley, NSW 2263 (via University of Newcastle). The Orchard Swallowtail Butterfly, *Papilio aegaeus aegaeus*.

Black and White section: First prize — Jeff NAGLE, 5 Binburra Ave, Toowoomba Bay, NSW 2261 (via University of Newcastle). Bronze Orange Bug, *Musgraveia sulciventris*. Second prize — Peter MARSACK, Department of Design, University of Newcastle, NSW. Belid weevil.

These, and some high commended entries, will be displayed at the Melbourne conference.

Phil Carne Student Prize

Four entries were submitted for judging this year. The winning entry was by Scott Field who will present his paper entitled "Courtship and sexual selection in the parasitoid *Cotesia rubecula* (Marshall) (Hymenoptera: Braconidae)" to the 22nd AGM and Conference.

Review of the Society's Awards

The President has conducted a review of the Society's awards and prizes, namely Honorary Life Membership, Mackerras Medal, Biological Illustration Award, Phil Carne Student Prize and Research Grants. The results of this review, and any proposed modifications to the awards and prizes, will be discussed at the 41st Council Meeting and the 22nd Annual General Meeting.

Methods for Collecting, Preserving and Studying Insects

The Society is about to publish a fourth edition of the above mentioned publication, which has been completely revised by Mr Murray Upton. It is hoped that this publication will be available for launching at the 22nd AGM and Conference.

Involvement of Members in the Society's Affairs

There have been at least two instances where Executive or appointees of Executive have called for comments on certain issues from the membership. Executive thanks all of those who took the time to respond. However, submissions from members have not exactly 'flooded in' and Executive would like to encourage members, both full and student, to take a more active part in the Society's affairs.

While the quality of applicants for the Australian

Entomological Society Research Grants and the Phil Carne Student Prize have been high, the Executive would like to encourage even more applicants next year, when applications will have to be ready in November.

The Australian Entomological Society, Inc.

ANNUAL REPORT OF THE TREASURER FOR THE YEAR 1990

The attached audited accounts show that the Society made a combined operating loss of \$10,539, comprising losses of \$1,921 and \$8,618 from the General and Publication Accounts respectively. This compares to an operating surplus for the previous year of \$6,232.

The major difference relates to the Publications Account. It is difficult to directly compare 1990 and last year due to a difference in accounting procedures used by the two different auditors. Superficially, there is an increased loss of \$8,616 from \$1,614. However, a \$5,000 subsidy from the General Account in 1989 was not shown as income whereas the \$10,000 subsidy in 1990 was. This is balanced by a \$5,000 amount which was transferred from a fixed deposit account in 1990 but was not shown as income.

The difference, in the main, is due to three factors. First, printing costs apparently increased to \$37,919 from \$30,684 (23.51%) although these figures differ from those of the Business Manager (due to accounting procedures there has traditionally been a difference between the auditor's and BM's accounts). Secondly, stock remained steady in 1990 while it increased by \$7,257 in 1989. As stock is 'bought' from the previous year for accounting purposes, 1990 was required to 'pay' for the extra \$7,257 worth of stock. This stock mainly comprises unsold copies of the *Arachnology* book and the *Directory of Entomology*. Finally, printing of the *Directories* was an additional \$2,100. The rising cost of the *Journal* is of concern and is treated separately below.

The General Account showed an operating loss of \$1,912 compared to a profit of \$7,846 for 1989. Again, due to differences in accounting procedures, the \$10,000 subsidy to the Publication Account is shown in Expenditure for 1990 but the \$5,000 for 1989 is not shown. This difference is negated however due to the writing off of \$5,220 of expenditure as Creditors Written Back. This was done to 'rid' the accounts of an anomaly which had existed for a number of years. Other significant variations in 1990

from 1989 were: Reduced profit from the 20th AGM (\$2,700 down from \$5,357), printing and stationery (\$2,505, zero in 1989), provisions for bad debts (\$2,536, zero in 1989) and reduced interest on investments (\$7,134 down from \$8,680). This latter matter resulted from the fall in interest rates which occurred in the last half of 1990.

The cost of publication of 'Myrmecia' for the year was \$7,507. This is 19.8% of the total General Account income. This was offset by \$199 in advertising income.

The Society still remains in a strong position with total assets of \$79,956 (\$81,559 in 1989 — a reduction of 2%). The major Investment account is the Research Grants Account with a balance of \$47,031.

The Research Grants Account was transferred out of Sirocredit late in the year and invested with the Commonwealth Bank. This was done to protect the major asset of the Society at a time when some Credit Unions were collapsing and, generally, were considered at increased risk of financial failure.

A new Auditor for the Society's accounts was chosen because the previous Auditor increased charges from \$1,750 in 1988 to \$2,350 in 1989 and this was accompanied by delays in the preparation of the audit. I would like to thank Mr John Graham for the comprehensive documentation of the Society's accounts for 1990.

It is expected that the taxation return for 1990 will show, once again that, for the purposes of the Act, the Society incurred an operating loss for the year and, consequently, no taxation payment will be liable.

Journal

From the Business Manager's accounts, the deficit for volume 29 (1990) of the *Journal* was \$9,243.30 compared to \$5,488.31 for volume 28.

A background paper has been prepared and sent to Councillors as Attachment B.

Recommendations:

Various options were considered including changing printers, decreasing quality of production, increasing library subscriptions to the *Journal* and increasing page charges. Some of these have been reviewed in the past.

Initially it is recommended that subscription rates to the *Journal* be increased as follows:

Australia: to \$90 from \$70 (29% increase)
Overseas: to \$105 from \$80 (31% increase)

This is expected to nett an extra \$4,000 and should be implemented as soon as possible. Increases in charges for reprints and rapid publication notes are considered not desirable at this stage.

Auditor's Report

I have conducted an audit of the books of account of the Australian Entomological Society Incorporated ("The Society") for the year ended 31st December 1990 in accordance with Australian Auditing Standards.

In my opinion the attached balance sheet, profit and loss statements, source and application of funds and notes to the accounts:- have been prepared in accordance with relevant Australian Accounting Standards and applicable approved accounting standards; and give a true and fair view of the financial position of the Society as at 31 December 1990.

In forming this opinion I have obtained all the explanations and information that were, in my belief, necessary.

John R. GRAHAM CPA (Taxation)
15th day of May 1991.

The Australian Entomological Society Inc

BALANCE SHEET AS AT 31ST DECEMBER 1990

	Note	1990(\$)	1989(\$)
CURRENT ASSETS			
Cash	2	17 865	11 433
Receivables	3	4 230	3 046
Inventories	4	<u>15 352</u>	<u>15 900</u>
		37 447	30 379

NON CURRENT ASSETS

Investments	5	<u>57 378</u>	<u>61 420</u>
Total Assets		<u>94 825</u>	<u>91 799</u>

Less

CURRENT LIABILITIES

Creditors & Accrued Charges	6	13 249	10 240
Provision for Bad Debts	7	<u>1 620</u>	
Total Liabilities		14 869	10 240
Total Net Assets		<u>79 956</u>	<u>81 559</u>

ACCUMULATED FUNDS

Retained Funds	8	<u>79 956</u>	<u>81 559</u>
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The Australian Entomological Society Inc. General Account

Statement of Income and Expenditure for Year ended 31st December 1990.

	Note	1990(\$)	1989(\$)
Income			
Advertising Income		199	327
CSIRO Journal		2 570	3 288
Interest Received		7 134	8 680
Other Income		292	
Postage Refunds			84
Return of Funds 20 AGM Committee		2 700	5 357
Sales		276	32
Subscriptions Received		22 524	17 533
Medals Closing Stock 31/12/90		<u>2 229</u>	<u>2 229</u>
		<u>37 924</u>	<u>37 530</u>
Expenditure			
Medals Opening Stock 1/1/90		2 229	2 229

AGM Expenses	2 200	1 000
Audit/Accounting	9 3 300	1 750
Bank Charges & Other Expenses	203	37
Biological Illustration Competition	800	800
Creditors Written Back	10 (5 200)	
Executive Travel	1 000	374
Furniture & Fittings	222	
Grant to Publications Account	10 000	
ICUN Conference		150
News Bulletin	7 507	7 855
Petty Cash/Other Expenditure	193	925
Photocopying		231
Postage	2 120	
Printing & Stationery	2 505	
Provision for Bad Debts	2 536	
Publication & CSIRO	1 510	1 975
Research Grants	2 050	3 945
Salary Editor's Assistant	5 823	5 371
Stationery & Postage		1 860
Student Awards	590	674
Subscription to FASTS	<u>277</u>	<u>508</u>
	<u>39 845</u>	<u>29 684</u>
Operating Profit/(Loss) before Tax	(1 921)	7 846
Income Tax Expense/(Benefit)	<u>—</u>	<u>—</u>
Operating Profit/(Loss) after Tax	(1 921)	7 846

The Australian Entomological Society Inc Publications Account

Statement of Income and Expenditure for Year Ended 31st December 1990

	Note 1990(\$)	1989(\$)
Income		
Subscriptions Received	16 480	15 250
Interest Received	707	926
Reprints and Back Issues	11 173	12 157
Grant from General Fund	10 000	
Closing Stock 31/12/90	<u>13 123</u>	<u>13 671</u>
	<u>51 483</u>	<u>42 004</u>

Expenditure

Opening Stock 1/1/90	13 671	6 414
Bank Charges & Other Expenses	134	10

Directories	2 100	50
Petty Cash	1 150	1 050
Postage Journals	2 134	2 669
Printing Costs	37 917	30 684
Printing of Reprints	1 470	1 959
Stationery	829	762
Wages	696	
Workers Compensation		<u>20</u>
	<u>60 101</u>	<u>43 618</u>
Operating Profit/(Loss) before Tax	(8 618)	(1 614)
Income Tax Expense/(Benefit)	<u>—</u>	<u>—</u>
Operating Profit/(Loss) after Tax	(8 618)	(1 614)

The Australian Entomological Society Inc 21st Annual General Meeting Committee Account

Statement of Income and Expenditure for Year Ended 31st December 1990

	Note 1990(\$)	1989(\$)
Income	11	
Grant from General Account		1 000
Interest Received		766
Registrations		<u>73 934</u>
		<u>75 700</u>

Expenditure

Accommodation	21 786
Catering	30 092
Excursions	1 810
Insurance	268
Other Expenses	462
Photographs	2 000
Printing & Stationery	1 414
Prizes/Awards	100
Rent of Venues	7 945
Souvenirs	2 727
Travel	<u>692</u>
	<u>69 296</u>

Operating Profit/(Loss) before Tax	6 404
Income Tax Expense/(Benefit)	<u>—</u>
Operating Profit/(Loss) after Tax	6,404

The Australian Entomological Society Inc Conservation Committee Account

Statement of Income and Expenditure for Year Ended 31st December 1990

	Note 1990(\$)	1989(\$)
Income	12	
Interest Received		31
Other Income		<u>2 777</u>
		<u>2 808</u>
Expenditure		
Other Expenses		<u>276</u>
		<u>276</u>
Operating Profit/(Loss) before Tax	2 532	
Income Tax Expense/(Benefit)	—	
Operating Profit/(Loss) after Tax	2 532	

The Australian Entomological Society Inc Source and Application of Funds

Statement of Income and Expenditure for Year Ended 31st December 1990

		1990(\$)	
Income from Operations		167,915	
Expenditure from Operations	169 518		
less Provision for Bad Debts	(1 620)	<u>(167 898)</u>	
		<u>17</u>	
Plus			
Source of Funds			
Increase in Creditors	3 009		
Reduction in Stock	548		
Reduction in Investments	<u>4 042</u>	<u>7 599</u>	
		<u>7 616</u>	
Application of Funds			
Increase in Cash at Bank	6 432		
Increase in Debtors	<u>1 184</u>	<u>7 616</u>	

The Australian Entomological Society Inc Notes to and forming part of the Accounts of the Society of the Year Ended 31st December 1990

NOTE 1 SUMMARY OF ACCOUNTING POLICIES

The attached accounts have been prepared in accordance with accounting standards issued by the Australian Society of Certified Practising Accountants and generally accepted accounting principles. The following notes explain the accounting method adopted where accounting standards allow differing accounting methods to be used.

(a) HISTORICAL COST

The accounts have been prepared under the historical cost convention and have not been adjusted to take into account the changing value of money or its impact on the operating results of the Society.

(b) INVENTORY

Stock on hand has been valued at the lower of cost or net realisable value.

(c) INCOME TAX

The Society does not follow the principles of tax effected accounting when preparing its accounts. The Concept of Mutuality limits income tax to only investment income and a proportion of total expenditure will be allowed as a tax deduction. Additionally the Society has carry forward tax losses, for which there is no virtual certainty that they will be ever totally offset against income. Consequently the Society does not recognise any current income tax liability or future income tax benefit arising from its operations.

	1990(\$)	1989(\$)
NOTE 2 CURRENT ASSETS — CASH		
Cash on hand	7	1
Cash at Bank		
— General Account	6 423	2 944
— Publications Account	<u>11 435</u>	<u>8 488</u>
	<u>17 865</u>	<u>11 433</u>

NOTE 3 CURRENT ASSETS — RECEIVABLES

Debtors	<u>4 230</u>	<u>3 046</u>
	<u>4 230</u>	<u>3 046</u>

NOTE 4 CURRENT ASSETS — INVENTORIES

Stock on Hand		
— Publications	13 123	13 671
— Medals	<u>2 229</u>	<u>2 229</u>
	<u>15 352</u>	<u>15 900</u>

NOTE 5 NON-CURRENT ASSETS — INVESTMENTS

Interest Bearing Deposits		
CBA Victoria Park WA	47 031	10 000
CBA Publications		5 000
Sirocredit A/C 10968		39 864
Sirocredit A/C 101440	<u>10 347</u>	<u>6 556</u>
	<u>57 378</u>	<u>61 420</u>

NOTE 6 CURRENT LIABILITIES —**CREDITORS & ACCRUED CHARGES**

Creditors & Accruals	7 021	7 200
Prepaid Subscriptions	<u>6 228</u>	<u>3 040</u>
	<u>13 249</u>	<u>10 240</u>

NOTE 7 CURRENT LIABILITIES —**PROVISION FOR BAD DEBTS**

Provision Created	2 536	
less Bad Debts Written Off	<u>(916)</u>	
	<u>1 620</u>	

NOTE 8 ACCUMULATED FUNDS —**RETAINED EARNINGS**

Balance 1 January 1990	81 559	75 327
Surplus/(Loss) For Year		
General Account	(1 971)	7 846
Publications Account	(8 618)	(1 614)
AGM Committee Account	6 404	
Conservation Cttee Account	<u>2 532</u>	
	<u>79 906</u>	<u>81 559</u>

NOTE 9 AUDITORS' REMUNERATION

Total amounts receivable by the Society's Auditors		
Audit Fees		
1989 Auditor	950	850
1990 Auditor	750	

Other Services

1989 Auditor	1 400	900
1990 Auditor	<u>200</u>	
	<u>3 300</u>	<u>1 750</u>

NOTE 10 CREDITORS WRITTEN BACK

It has not been possible to identify \$5 220 of Creditors & Accrued Charges apparently outstanding as at 31/12/89. Consequently this amount has been written back to the Profit & Loss Account during 1990.

NOTE 11 21ST AGM COMMITTEE ACCOUNT

Comparative figures for 1989 are not available.

NOTE 12 CONSERVATION COMMITTEE ACCOUNT

This is a new account that was opened in 1990.

REPORT BY THE CHIEF EDITOR TO THE 22ND ANNUAL GENERAL MEETING

This report covers the period 1 January to 31 December 1990.

Journal

Production statistics for the *Journal of the Australian Entomological Society* during the period (with figures for 1989 in parenthesis) were:

Manuscripts received	77	(72)
Manuscripts accepted	53	(54)
Manuscripts rejected	8	(5)
Manuscripts withdrawn	9	(11)
Manuscripts with Tech Eds	48	(52)
Pages ready for publication	192	(117)

The number of manuscripts received during the year was up slightly from previous years. Acceptances were relatively constant through the year which obviated the need for reduced page numbers in any issue and left a good surplus for the first two issues of 1991. Time to publication for a manuscript requiring minimal changes remains at about 1 year, comparing favourably with similar journals. Volume 29 comprised the following parts:

Part	Published	Pages	Papers	Reviews
1	28 Feb	80	11	5
2	21 June	80	13	6
3	21 Aug	96	16	2
4	30 Nov	96	12	5

The total number of pages (352) was up on the 304 of last year and was above the average for the previous 10 volumes (338 pp). The number of pages ready for publication will allow the first two parts of volume 30 to be 96-page issues.

Part 2 was 3 weeks late due to problems encountered by the printer. Since then schedules have been maintained and look like doing so for 1991.

Book reviews continue to perform a useful function in filling otherwise blank pages. Only three pages were left blank in volume 29.

No major changes in format were made during the year or are expected for volume 30. I intend discussing with the typesetter and printer options for improved utilisation of the current page size but this will not take place until after my return from study leave in September.

I feel that the Journal should publish some papers of a more 'essay' nature, rather along the lines of some of the forum articles in *Journal of Economic Entomology*. The May 1991 issue will see the first of these, based on Tim New's presidential address of last year. I would welcome the submission of this type of manuscript.

In general, the Journal is in good shape with a constant flow of diverse manuscripts. Journal content can only reflect what is submitted. I am happy to receive manuscripts on any aspect of Australian entomology.

Miscellaneous Publications

The third edition of the *Directory of Australian Entomology* was published in June 1990. The input from the late Phil Carne and Ian Naumann was essential to the publication of this directory.

A new edition of *Collection and Preservation of Insects* is being prepared by Murray Upton. It is hoped that it will be available by mid 1991.

I would appreciate suggestions on other topics which would form Miscellaneous Publications.

General

The editorial staff changed at the 21st AGM with the

retirement of Neil Heather as Chief Editor, Bryan Cantrell and John Rogers as Technical Editors, and Katie Heather as Editorial Assistant. Alan Bishop, Ian Naumann and Graham White were elected as Technical Editors, Jenny Allsopp appointed Editorial Assistant, and I was elected Chief Editor.

I thank Bryan and John for continuing to process manuscripts in their possession; their continuing input is greatly appreciated. Jenny and I are grateful to Neil and Katie for their time in explaining the intricacies of running the Journal and for the completeness of journal records; both made the transition easier. The input from Alan, Ian and Graham and the assistance from Jenny are much appreciated.

Bob Domrow, Gordon Hooper, Roger Kitching and Barry Moore retired from the Editorial Board. All have given excellent service to the Society and their contributions will be missed. New Editorial Board members should be appointed by the Executive in March. The new board will comprise members with wide experience and reasonable geographic spread.

P.G. ALLSOPP
Chief Editor

ANNUAL REPORT OF NEWS BULLETIN EDITOR FOR CALENDAR 1990

A synopsis of costs, advertising revenue and page size for the 4 issues of 1990 is as follows:

	Costs	Advertising Income	Pages
Feb issue	1 775.95	100.00	56
May issue	1 578.17	0.00	44
Aug issue	2 347.58	225.00	72
Nov issue	<u>2 099.81</u>	<u>25.00</u>	<u>48</u>
Totals	<u>\$7 801.51</u>	<u>\$350.00</u>	<u>220</u>

The only change to "Myrmecia" format during the year was the introduction of different colour inks on the cover for each issue during the year to facilitate separation of the different issues. Total page numbers rose by 6.25% over last years while costs rose by 13.8%. "Myrmecia" cost the Society just over one-fifth the annual cost of its *Journal*. I shall relinquish editorship at the 23rd AGM.

G.B. MONTEITH
News Bulletin Editor

REPORT OF THE BUSINESS MANAGER FOR VOLUME 29 AND THE YEAR 1990

Number 1 printed on 28.ii.1990	80 pages
Number 2 printed on 21.vi. 1990	80 pages
Number 3 printed on 31.viii.1990	96 pages
Number 4 printed on 30.xi.1990	96 pages

EXPENSES	1	2	3	4	Total
Journal	7 000.00	3 960.00	4 862.00	4 862.00	20 684.00
Reprints	424.00	600.00	446.40	638.40	2 108.80
Postage	565.27	595.46	694.68	430.34	2 285.75
Type		2 997.00	3 441.00	3 552.00	9 990.00
Mailing Ch	158.14	151.22	155.54	157.16	622.06
Total	<u>8 147.41</u>	<u>8 303.68</u>	<u>9 599.62</u>	<u>9 639.90</u>	<u>35 690.61</u>

INCOME

Reprints	2 470.00	2 365.00	2 615.00	2 835.00	10 285.00
Subscriptions					16 162.31
Total					<u>26 447.31</u>

Deficit for Volume 29	<u>\$9 243.30</u>
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FINANCIAL REPORT FOR THE YEAR 1990

Opening Balance	8 488.27
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Income

Subscription	16 480.30
Transfer from general acc.	10 000.00
Sale of Vol. 1-5	12.50
Sale of Vol. 6 onwards	329.80
Reprints	9 852.46
Sale of M.P. 3	371.52
Sale of M.P. 5	381.52
Sale of M.P. 6	203.75
Invertebrates	16.00
Cards	4.95
Postage recovered	201.85
Interest	706.70
Cashed IBD deposit	5 000.00
Total	<u>43 561.35</u>

Expenses

Printing of Journal	17 228.00
Printing of Reprints	1 470.40
Type Setting	14 048.90
Postage of Journal	2 285.75
Mailing charge	622.06
Envelopes	828.90

Petty Cash	1 150.00
FDT	19.05
Australia Post	50.00
WCBQ	25.00
Returned publications	5.63
Preparation of envelopes	80.00
Printing of Directory	2 100.00
Preparation of Directory	696.00
Certificate of Balance	4.00
Total	<u>40 613.69</u>

Closing Balance	11 435.93
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PETTY CASH

Opening Balance	1.26
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Income

From publication acc.	1 150.00
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Expenses

Postage	218.70
Stamps	885.70
Stamp duty	14.50
Stationery	25.60
Total	<u>1 144.50</u>

Closing Balance	6.76
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J.F. DONALDSON
Business Manager

ANNUAL REPORT — CONSERVATION COMMITTEE

Submissions

Several submissions were completed this year. These were for the Resource Assessment Commission's Inquiry into the Woods and Forests Resources of Australia and into Kakadu (third stage). The short submission to RAC's Forest and Timber Resources Inquiry complemented our SE forests report which they also received. Alan Andersen compiled the Kakadu submission and had an opportunity to talk to the Commissioners in Darwin when hearings were held there in order to put our case in person. Also Barbara York Main was invited on behalf of the Committee to talk to a member of the Australian Science and Technology Council (ASTEC) concerning the submission she wrote for us last year for their review of the state of environmental research in Australia.

We prepared another submission on coastal environments for the House of Representatives Standing Committee on Environment, Recreation and the Arts which we will later expand for the next Resource Assessment Commission's Inquiry on the same topic. A number of people have helped us with this and we are most grateful to them. The House of Representatives report has just been released.

Correspondence

We wrote briefly to the Tasmanian Department of Parks, Wildlife and Heritage concerning the management plan for Macquarie Island and had replies to our letters to Tasmania concerning the World Heritage Area and Macquarie Island management plans. One item on which we made some comment was the use by apiarists of the area.

A Japanese television company producing a programme documenting world opinion on environmental concerns to be called "Our Beautiful Planet" sent the Society a questionnaire forwarded to us by the Executive. Committee members responses expressed concern for habitat destruction and need for more funds for education and research particularly in developing countries.

Our support for a proposal for a living invertebrate display at the Taronga Park Zoo will, we understand from the reply to our letter, not be going ahead for some time because of budgetary constraints. Priorities are for vertebrate displays.

Most recently we contributed to the review of the Australian Plague Locust Commission urging a continuation of the study of the effect of their control methods on non-target organisms.

Policy Statement

A draft policy statement for the Conservation Committee has been written and is being considered by the Executive.

Publications and other media events

The first number of the Endangered Species National Network Bulletin was issued in November by the World Wildlife Australia office in Sydney. This publication is funded by the Federal Government. Our invited article on invertebrate conservation was included. Barbara York Main has prepared an article on conservation of mygalomorph spiders in WA for the next issue just out and we have a third submitted on ant diversity by Penny von Ostermee.

We had considerable media coverage in November

because of an item in "The Australian" with the rather inaccurate headline "Smugglers threaten rare insects". It resulted in seven interviews on talkback radio and one in television news which allowed me to discuss insect conservation in general.

Meetings

A meeting was held in Canberra in February which I attended on protection of native grasslands with government, scientific and conservation group participation, in order to plan action. A castniid moth, for which the only known site with a reasonably large population, is in suburban Canberra occupied a prominent place in the proceedings.

We have had some further involvement with the National Forest Inventory (NFI) and have registered as possible future users of their data base. The unit organised another workshop in May "to assist in the quantification and standardisation of attributes associated with Old Growth Forests" which I attended on invitation to represent invertebrate interests.

Invertebrate Site Register

Australian Heritage Commission (AHC) has awarded a grant for the registration of invertebrate sites as part of the National Estate. Dinah Hales wrote a letter of support for the application and Tim New and myself are the grantees. The AHC want members of the Society to be very closely involved in choosing possible sites for registration and the first States to be considered are Victoria, New South Wales and South Australia.

Finally I would like to thank all the members of the Committee who have, as usual, worked extremely hard and contributed a great deal to our activities throughout the year. They provided me with much support for which I am most sincerely grateful.

P. GREENSLADE

(Convenor, Conservation Committee)

REPORT OF THE MARKETING COMMITTEE

Introduction

At a meeting of the Australian Entomological Society Inc. held at the Macquarie University on May 5 1989 I was invited to convene a Committee to administer the Society's

marketing strategy. Subsequently, Dr Ross Wylie and Dr Paul McFadyen were invited to form the AES Marketing Committee.

A Revision of Miscellaneous Publication No. 3

The Marketing Committee provided initial input into this proposed revision in the form of desirable product characteristics which it was felt would improve the marketability of the publication. We have recently been informed that the revised publication is now in proof-stage with an outside possibility that it could be launched at the July 1991 Annual General Meeting and Scientific Conference. In view of this possibility marketing strategy has been prepared for consideration.

If the Revision is published in time for the Conference then it would be appropriate to have a book launch at this time. Under these circumstances it would be best for the organisers of the Conference and their public relations adviser to undertake this task. If the publication is not ready for the Conference, then a book launch at the Australian National Insect Collection would be most appropriate.

Christmas Cards

Mrs Sybil Monteith has been commissioned to provide the art work for a Society Christmas Card. It is proposed that it will be coloured and have an Australian entomological theme. Following initial quotes approval has been given by the Executive to order 2000 cards. They will be sold in packs of ten, with envelopes. We are hopeful that the cards will be available for sale at the July Conference. Price of the cards will be determined when final costs have been calculated.

The Marketing Committee will produce a brochure/ advertisement for use in *Myrmecia* and *Australian Entomological Magazine*. It has been suggested that individual Society Members who are also members of State entomological societies should be nominated to promote the cards within the State Societies.

I.D. GALLOWAY
Convenor

Acknowledgments

Perth Executive members wish to thank all Executive Officers, Councillors and Executive appointments for their efforts throughout the year.

Thanks are due to the retiring councillors, Dr P. Cranston, Mr L. Hill, Dr D.G. James, Ms M. Geary and Dr

D.J. Bickel for their contribution to the Society, and also to Dr Terry Houston and his colleagues for judging the entries to the Biological Illustration competition. Mrs Beverley Jones and Mrs Therésée Langan are thanked for their typing of Executive minutes and correspondence.

Australian Entomological Society Inc.

Minutes of the 22nd Annual General Meeting

held at the University of Melbourne at 5.30 pm on Tuesday, 16th July, 1991

1. Opening

The President, Assoc. Prof. D.F. Hales opened the meeting and welcomed the other 54 members in attendance (A signed register is attached to the file copy of these minutes).

2. General Announcements

Nil.

3. Announcement of Proxies and Apologies

Apologies were received from (proxies in brackets): Dr P.G. Allsopp (no proxy), Mr D.H. Foley (Mr A. Clarke), Dr G.B. Monteith (Mr B.A. Franzmann) and Mr R.I. Storey (Mr B.A. Franzmann).

4. Deaths of Members

Members stood in silence as a tribute to those individuals mentioned in the Annual Report whose deaths had been recorded since the previous AGM.

5. Minutes of the 21st AGM

The minutes of the 21st AGM were adopted (moved Dr E.J. Wright, seconded Dr T.R. New). No business arose from them.

6. Annual Report of the Executive

The Vice President, Dr T.J. Ridsdill-Smith, spoke to the first part of this report, highlighting various items including the fact that the publication 'Methods for Collecting, Preserving and Studying Insects' had not become available by the time of this meeting. This publication, which will retail at \$15.00 will soon be available. The Vice President stressed the need for members to be more active in making

inputs to the Society, especially when member's views are canvassed, and also for more student entries in the Phil Carne Student Prize scheme. He expressed the Society's thanks to Dr I.D. Galloway who is resigning from the position of convener of the Marketing Committee.

Mr P.R. Davis summarised the Treasurer's report and stated that the Society is currently in a strong financial position. Dr T.R. New noted that many education institution libraries are cancelling Journal subscriptions as cost-saving measures. In view of the fact that the Society has increased Journal charges, it would be wise to monitor whether this is resulting in the cancellation of any library subscriptions. Dr M.J. Fletcher asked why the Journal appeared to be a loss-making venture. The Treasurer explained that the apparent deficit associated with publications was caused by the carrying over of stock of the Arachnology volume from the previous year. If it were not for this, the finances of the Journal would be in a healthy state.

In the absence of Dr P. Allsopp, Dr I.D. Naumann highlighted the main points of the Chief Editor's report. Dr T.R. New asked if the Society would consider exempting invited contributions from page charges. The President said that she believed that this should be the case. Dr P.B. McQuillan suggested that the cost of typesetting the Journal could be reduced by desktop publishing procedures. Apparently *General and Applied Entomology* are about to adopt this method. Dr A.D. Austin mentioned the problem of meeting the cost of reprint and page charges, now that his university does not pay for these. Although this problem was recognised, the President said that the Journal had to be an economically viable concern.

The Secretary read out the News Bulletin Editor's report. He said that in view of the fact that Dr G.B. Monteith will be relinquishing his position at the 23rd AGM, the Executive is keen to hear from any people who are interested in filling this position.

Dr T.J. Ridsdill-Smith highlighted the main points of the Conservation Committee report. He mentioned that negotiations are currently taking place between the Executive and the convener on the need for a more defined insect conservation policy. He also clarified the point that the Australian Heritage Commission grant was to Ms P. Greenslade and Dr T.R. New and not to the Society itself.

Dr T.J. Ridsdill-Smith highlighted the main points in the Marketing Committee report.

Following this, the motion that the Annual Report and Committee reports be accepted was carried unanimously (moved Dr M.J. Fletcher, seconded Dr T.R. New).

7. Competitions — Announcement of Awards

The Phil Carne Student Prize winner, Scott Field, has been announced in the Annual Report, and he has now presented his paper at the 22nd AGM and Conference.



Scott Field, winner of the Phil Carne Prize for the best student project submission.

The winners of the Biological Illustration Competition have been announced in the Annual Report. The winning entries and some of the commended illustrations were displayed at the Cocktail Party which was held at the Museum of Victoria following the 41st Council Meeting.

8. Recipients of the Australian Entomological Society Research Awards

These have been announced in the Annual Report. Three applications were approved, despite the fact that one was for a relatively large sum. This was possible because the amount of funds granted in the previous year has been below the general sum which had been allocated.

9. Biological Council of Australia

Dr I.D. Naumann gave an account of the discussions which took place concerning this at the FASTS AGM on November 5th, 1991 (see Executive Meeting 286 minutes).

The Biological Council is not yet off the ground and responses have only been received from a few societies. The President said that the Society will remain affiliated with FASTS for the present and outlined some of the ways in which it intends to interact.

10. Review of the Society's Awards and Prizes

The President introduced her summary of recommendations on the Society's awards and prizes. Each recommendation has already been discussed by Council and was now put to the AGM for ratification. There was no objections to any recommendations except number 3, which concerned the lowering of the age limit for the Mackerras Medal from 50 to 40. A vote of those present revealed that the majority were in favour of maintaining the age limit of 50.

Following extensive discussion, the motion that the President's Recommendations 1-2 and 4-9 be accepted was unanimously carried (moved Dr G.D. Rippon, seconded Dr A.D. Clift). A second motion that Recommendation 3 be returned to Council was also unanimously carried (moved Dr M. Keller, seconded Mr B.A. Franzmann).

11. Business Arising from the 41st Council Meeting

The President indicated that Executive now have a

group interested in running the 24th AGM. Executive also has expressions of interest from a group in Adelaide who are willing to act as the new Executive. The Secretary pointed out that in view of the fact that the 23rd AGM is taking place in February 1992, all advertisements for the 1992 awards, prizes, grants and elections will appear in the next issue of *Myrmecia* and have to be returned to the Secretary in October this year.

The President said that Dr G.B. Monteith has written to seek financial support for the preparation of an educational insect poster by the Queensland Museum to be launched at both the Society's 23rd AGM and the Museum's major temporary display on entomology in February, 1992. In return, the Society's logo will appear on the poster beside that of the Queensland Museum and it will also be able to recoup some of the costs by selling some of the posters to its members through *Myrmecia* and at conferences. Council has already agreed in principle to support this proposal by providing \$1,500 to assist with its preparation. A motion that \$1,500 be provided to assist with the production of this poster was unanimously carried by those present at the AGM (moved Mr L. Hill, seconded Ms A. Wells).



Members of the incoming Society Council present at the Melbourne Conference (L to R): James Ridsdill-Smith, Bernie Franzmann, Janet Horne, Jon Majer, Richard Faulder, Peter Davis, Jane Wright, Ian Naumann, Alan Yen

12. Announcements of Office-Bearers and Councillors for 1991

The President apologised for the lateness in advertising nominations. The resulting constitutional problem had been discussed by the Executive and also at the recent Council meeting and it was felt that nominations should be provisionally accepted at the Council meeting and presented for endorsement at the AGM. The full meeting of the AGM endorsed the acceptance of the nominations presented below (moved Dr T.R. New, seconded Dr M.J. Fletcher).

Executive Officers:

President	Assoc. Prof. D.F. Hales (proposed A. Beattie/seconded G. Beattie)
Vice President	Dr T.J. Ridsdill-Smith
Secretary	Assoc. Prof. J.D. Majer
Treasurer	Mr P.R. Davis
Public Officer	Dr I.D. Naumann
Chief Editor	Dr P.G. Allsopp
Business Manager	Mr J.F. Donaldson

Other Councillors:

Technical Editors	Dr A.L. Bishop Dr I.D. Naumann Dr G.G. White
News Bulletin Editor	Dr G.B. Monteith

Regional Councillors:

QLD	Mr D.H. Foley (renominated) Mr B. Franzmann (renominated) Mr R.I. Storey (renominated)
NSW	Mr R.J. Faulder (proposed James/seconded M. Stevens) Dr S. McEvey (proposed D. Bickel/seconded M. Moulds) Mr J.G. Clancy (proposed M. Geary/seconded R. Russell)
VIC	Mrs J.A. Horne (renominated) Dr A. Yen (renominated)
ACT	Dr S. Shattuck (proposed P. Cranston/seconded D. Rentz) Dr E.J. Wright (renominated) Dr A.D. Austin (renominated)
SA	Dr T. Kingston (proposed L. Hill/seconded P. McQuillan)
TAS	
WA	Mr J. van Schagen ((renominated)
NT	Mr P. Dostine (renominated)

13. Report of the 22nd Scientific Conference and AGM Organising Committee

Mrs J.A. Horne gave a report on the Conference and AGM. A full report will appear in the next issue of *Myrmecia*. The President congratulated the Organising Committee convenor on her efforts in producing this well run meeting.

14. Report of the 23rd Scientific Conference and AGM Organising Committee

Dr P.B. McQuillan presented a report on the progress with planning the 23rd AGM, which will take place between 1-6 February 1992. Further details of this meeting will appear in the next issue of *Myrmecia*. The President thanked Dr McQuillan for the organising committee's efforts and expressed the hope that there would be a good turnout at the Tasmanian meeting.

15. Other Business

15.1 Support for changes to the International Code of Zoological Nomenclature

A letter has been received from several entomologists at the Australian Museum urging the Society to write a letter to the International Commission on Zoological Nomenclature calling for certain changes to, and a tightening of, the International Code of Zoological Nomenclature. Mr M.S. Moulds spoke to this letter, the content of which has already received general support from Council. Dr D.P. Sands moved that the Society write the required letter subject to the phrase 'recognised Journal' being replaced by 'recognised publication' (seconded Dr P. Cranston). The motion was agreed to by all present and the Secretary will prepare the appropriate letter.

15.2 Support for Conferences

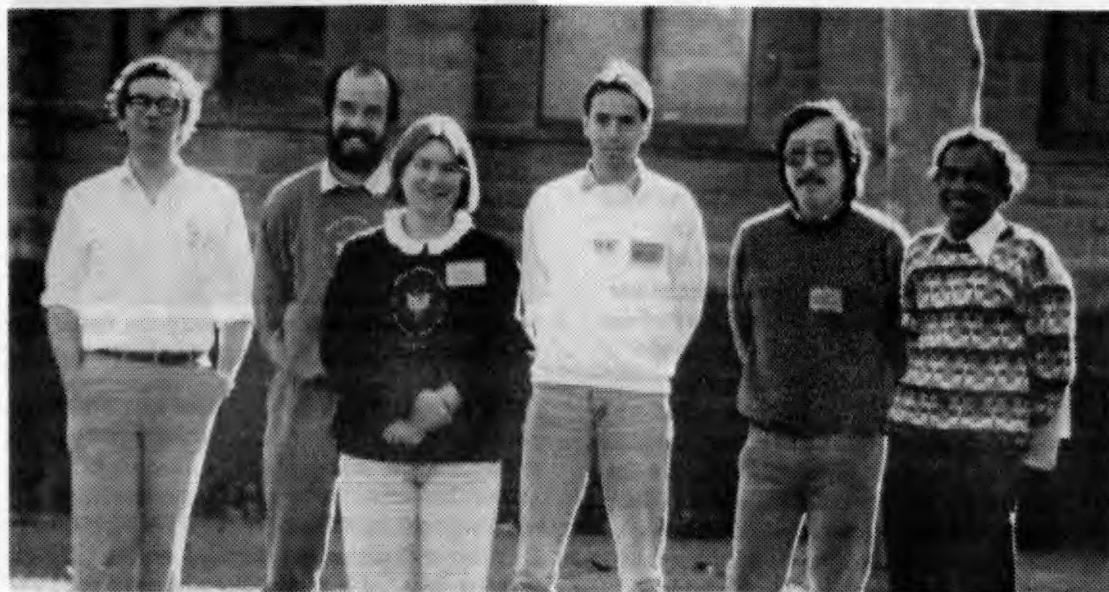
The President mentioned that the Society had made a grant of \$500 towards the running of the symposium entitled 'Australia's Biota and the National Interest. The Role of Biological Collections'.

16. Close

There being no other business, the President thanked the outgoing councillors and office bearers and also those in general who have supported the Society. The meeting closed at 7.00 pm.

22ND CONFERENCE ORGANISING COMMITTEE REPORT

Organising Committee for the Melbourne Conference (L to R): Tim New, Paul Horne, Janet Horne, Andrew Henderson, Alan Yen, Mali Malipatil.



The 22nd AGM and Scientific Conference was held in Melbourne at Melbourne University from the 14-19 July, 1991. It was surprisingly well attended, considering Melbourne's reputation for wet weather and the fact that last year's Conference was so large. Melbourne did behave itself, with cold but mainly dry weather. (The weather for the excursion was actually fine and sunny).

The Conference started on Sunday afternoon with registration at Ormond College, 197 delegates had registered by July 3rd, with less than half of these registering by the close of registration on April 29th. This consisted of 107 full members, 48 students, 14 non-members and 28 people who registered for a total of 42 single days. Fourteen people registered on the day, mostly on the Tuesday and Wednesday. We realise that many people do not know before-hand whether they will have the funds to attend conferences, but do please try to find out early as it is very frustrating for organisers attempting to finalise programme printing, dinners etc.

On Sunday evening we had a welcoming dinner at the University House Staff Club which was attended by 157 people. Scientific sessions began on Monday morning in the

Prince Philip Theatre of the School of Architecture with an opening address by Dinah Hales, President of our Society. Then followed a day of papers on the theme "The Impacts of Exotic Insects in Australia". One highlight of the day was the address by Scott Field, the Phil Carne Student Prize Winner, entitled "Courtship and Sexual Selection in the Parasitic Wasp *Cotesia rubecula*" which was both interesting and entertaining (we saw his supervisor, Mike Keller, in a new light!). A cocktail party was hosted by the Museum of Victoria that evening and we were also treated to an exclusive viewing of the exhibition "Skydancers - Butterflies of the World". After this impressive sight, all 170 of us squeezed into the Museum's small lecture theatre for a fascinating seminar by Charles McCubbin. The winning entries, and other notable submissions, of the insect Illustration Competition were also on display during the cocktail party.

Tuesday's scientific theme was "Vulnerable Environments in Australia With Particular Reference to Alpine and Aquatic Environments". This was a particularly well-attended day, with many day-registrants coming from the Australian Society for Limnology's annual conference

(this year at Lorne) held just before ours. In fact we arranged our programme this way to try to encourage closer links with the ASL. Helen Wallace, the winner of the best paper presentation, was the last speaker on this day with a very interesting paper on "Dispersal of Seeds of *Eucalyptus torrelliana* by the stingless bee *Trigona carbonaria*". The Annual General Meeting was quite painless and was held in the lecture theatre immediately following the close of sessions.

Wednesday had two themes; in the morning we heard papers on "Genetics and Molecular Biology" and the afternoon's sessions were on "Modern Methods in Systematic Entomology". Between these two themes was the annual "Fun Run". A 3km dash around Royal Park saw hometown boy Peter Cole in first, closely followed by Andrew Henderson (representing the Organising Committee). Then came Jonathan Majer (the executive's representative), Scott Field (Phil Carne Winner) and Roger Farrow and Gary Fitt came a dead-heat for 5th place (the word "*Heliopsis*" was heard several times around the track!). In the evening, Mali held a systematics workshop with computers available for demonstrations and discussions. He was overwhelmed by the response - 40 attended when about 10 had been expected.

Thursday was reserved for papers which were not on official themes. These had to be fitted into concurrent sessions in the Prince Philip Theatre and the Sisalkraft Theatre. There were papers on diverse topics in these sessions, such as computer modelling, physiology and taxonomy. Gary Fitt deserves a medal for output, as he presented two papers and was co-author on three more. The closing session of the Conference was the Charles French Memorial Address by Tom Hogan. Tom brought home to many of us the relatively short time from the early days of Australian entomology to today's sophisticated techniques. It was also interesting to note the cooperation shown between Qantas, TAA, Ansett and the RAAF in applying the first aerial insecticide sprays in Australia. One hundred and thirty people attended the Annual Dinner held in the atmospheric Ormond College Dining Hall. It was a chance needed by many of us to relax after a hard week of scientific and social sessions.

Twenty-three people stayed on for the final event of the Conference, the excursion to Healesville Sanctuary. Here we were privileged to inspect the helmeted honeyeater



The official cheer squad for the fun run (L-R): John Osmelak, Murray Fletcher and John Macdonald.

captive breeding programme which is not open to the public. The senior veterinary officer, David Middleton gave us a talk on the progress of this project and the prospects for Victoria's bird emblem seem good. The glorious sunny winter day made our barbecue lunch most enjoyable.

A total of 80 papers were presented over the 4 days of formal sessions and 25 posters. The best poster award was given to Anthony O'Toole for a poster entitled "A Possible Cultural Control for Weevils in Orchards".

I wish to thank the other members of the Organising Committee for all their hard work before and during the Conference: Andrew Henderson, Paul Horne, Mali Malipatil, Tim New, Jim Woodward and Alan Yen. Vicki Carter and Amanda Kobelt (IPS, Burnley) assisted on the Registration desk and Dieter Hochuli and David Britton (La Trobe University) did a magnificent job with projection and lighting.

Janet HORNE
Convenor, 22nd AGM

MELBOURNE CONFERENCE SCIENTIFIC PROGRAMME

The following papers and posters were presented at the Melbourne Conference. For papers with more than one author the person who presented the paper is underlined

The Impacts of Exotic Insects in Australia

Don SANDS — Exotic insects as agricultural pests in Australia.

Ross FIELD — Overview of exotic biocontrol agents in Australia.

Ian DADOUR — Dung beetles in Western Australia.

S.K. ASANTE and W. DANTHANARAYANA — The seasonal biology of the woolly apple aphid, *Eriosoma lanigerum* (Hausmann) in Armidale, Northern Tablelands of NSW.

Grant FARRELL and Colin WILSON — Assessing the density of the biological control agent *Neurostrota gunniella* on the woody weed *Mimosa pigra* in the NT.

Ross LARDNER — Comparative host stage utilisation by two parasitoids of *Liomyza brassicae* (Diptera: Agromyzidae)

Anthony CLARKE — The current distribution and pest status of *Nezara viridula* (Hemiptera: Pentatomidae) in Australia.

Supatra DOLSOPON — Interspecific competition between *Aphytis melinus* and *Comperiella bifasciata*: parasitoids of the red scale, *Aonidiella aurantii*.

Dennis HAUGEN — Biological control of *Sirex noctilio* with the parasitic nematode *Deladenus siricidicola* in the *Pinus radiata* plantations of the green triangle.

Paul de BARRO — The impact of high summer temperatures on the survival of the bird cherry aphid, *Rhopalosiphum padi* in irrigated perennial grass pastures in SA.

Scott FIELD (Student Address) — Courtship and sexual selection of the parasitic wasp *Cotesia rubecula*

Graham BROWN — Eradication of European house borer, *Hylotrupes bajulus* (L).

Howard GREENING and Alan CLIFT — Incidence of *Trogoderma variabile* Ballion and other dermestid beetles (Coleoptera: Dermestidae) in commercial premises throughout NSW.

J.L. READSHAW and B. CAMBOURNE — The effect of

fenoxycarb, a relatively specific and environmentally safe pesticide for the control of codling moth and other pests, on the ecosystem of an Australian apple orchard.

Vulnerable Environments in Australia with Particular Reference to Alpine and Aquatic Environments

Richard MARCHANT — The vertical distribution of aquatic insects in the beds of two rivers in Victoria.

Dinah HALES — Millisearch; the case of the freshwater millipedes

Alice WELLS — The first parasitic Trichoptera.

Terry HILLMAN — Billabongs.

Ross HYNE, Greg RIPPON and David PARRY — Characterisation of the major toxicants in run-off waste waters of a uranium mine employing a Cladoceran toxicity test.

Dennis BLACK — Distribution of Australian millipedes.

Peter McQUILLAN — An overview of alpine insects in Australia.

Vin PETTIGROVE — The Mt Stirling stonefly *Thaumtoperia flaveola*: a rare and endangered species.

Michael BRABY — The role of ecological research in butterfly conservation: lessons from studies on the vulnerable lycaenid *Paralucia pyrodiscus lucida* Crosby.

E.M. DEXTER and R.L. KITCHING — Conservation status of Australian butterflies.

Ken FAIREY — Road reserves — the last refuge?

John MADDEN and Haifeng LI — Host tree location and attack by *Eucalyptus*-defoliating chrysomelids.

Philip WEINSTEIN — Leaf petiole chewing and the sabotage of induced defences.

Helen WALLACE — Dispersal of seeds of *Eucalyptus torelliana* F. Muell. by the stingless bee *Trigona carbonaria* Smith.

Genetics and Molecular Biology

John OAKESHOTT — Molecular basis of insecticide resistance.

Joanne DALY and Jennifer FISK — Endosulfan resistance in *Helicoverpa armigera* — evolution of a sex-linked character

G.A. HERRON, J. ROPHAIL & V.E. EDGE — The genetics of hexythiazox resistance in twospotted mite *Tetranychus urticae* Koch.

Ross CROZIER — Evolutionary lessons from honeybee mitochondrial DNA sequences.

K. LEFEVERE, F. CLISSOLD & B. ROBERTS — Endocrine changes induced by a protein meal as a function of ovarian development in the Australian sheep blowfly (*Lucilia cuprina*).

A.A. HOFFMANN — Adaption to environmental stress by acclimation or genetic differentiation: evidence from *Drosophila*.

Jon MARTIN — The use of molecular probes in karyosystematic studies of Chironomidae (Diptera).

Modern Methods in Systematic Entomology

Peter CRANSTON — Basic principles of cladistics/phylogenetics

Tingkui QIN — A preliminary phylogenetic analysis of the wax scales (Homoptera: Coccidae): problems in establishing an outgroup.

John TRUEMAN — A cladistic analysis of odonate wing venation.

Andy AUSTIN — The "pseudo-cladistics" of microgastrine braconid wasps and the Australian fauna.

Jose GALIAN and Barry MOORE — Chromosomal studies on Australian carabid beetles (Coleoptera).

John MacDONALD — Defensive behaviour and internal anatomy: a phylogenetic clue.

Ken WALKER — Computers in systematics.

M.J. DALLWITZ — Computer-aided taxonomy using the DELTA system.

Miscellaneous Sessions

Genevieve CARRUTHERS and Gordon HOOPER — The effect of fenitrothion spraying on non-target organisms.

Peter WILLIAMS, Andrew HENDERSON and Philip NICKSON — Strategies for using phosphine to control insect pests in silos of stored wheat.

John R.J. FRENCH — Physical barriers and bait toxicant in future termite control.

Philip WEINSTEIN — Epidemic polyarthritis and arboviral ecology in South Australia.

R.A. PARKES, G.A. HERRON, B.A.C. BEATTIE — A laboratory based method to evaluate the efficacy of petroleum spray oils for the control of insect and mite pests of citrus.

David G. JAMES and Jennifer WHITNEY — Biological

control of grapevine mites.

John MacFARLANE — Integrated pest management in strawberries.

Hainan GU and W. DANTHANARAYANA — Geographic variation in dispersal and life-history traits of natural populations in *Epiphysas postvittana*.

Roger LAUGHLIN — Growth rates of *Carpophylus hemipterus* L.

J. MacDONALD and W. THORP — Entomology and archaeology in OZ: a historical relationship?

Kay L. LINDSAY — A new pest and host database for the Australian Quarantine Inspection Service developed on an Hitachi mainframe computer.

Stephen GAGEN and Jim Nancarrow — A computerised decision-support system for management of insect pests of tomatoes.

V.R. BEJASAK — Proposal for using a national flora and fauna database.

B.A. FRANZMANN — The management of sorghum midge, *Contarinia sorghicola* using host plant resistance.

Gary P. FITT and Cheryl L. MARES — Host plant resistance in cotton: comparisons of morphological and biochemical resistance factors.

M. COOMBA and E. TOOLSON — Thermoregulatory ability and flight thresholds for *Helicoverpa punctigera* and *H. armigera* (Lepidoptera: Noctuidae).

Janice TUCKER — An electron microscope study of the peritrophic membrane in the desert locust *Schistocerca gregaria* and the effects of an acylurea insecticide, flufenoxuron on its structure.

Paul W. WELLINGS — The influence of host plant cultivars on phenotypic variation and life-history traits of the rose-grain aphid, *Metapolophium dirhodum* (Walker).

Melissa BETTS, Peter GREGG, Gary FITT and Mike MacQUILLAN — A field trial of mating disruption for the suppression of *Helicoverpa* spp. in cotton.

Garry McDONALD — The autumn resurgence of the common armyworm *Mythimna convecta* (Walker).

Alice P. Del SOCORRO — Phenology of *Mythimna convecta* in north-eastern NSW.

Alan CLIFT and Mary Ann TERRAS — A pest management program for paedogenetic mushroom cecids (Diptera: Cecidomyiidae) in Australia.

David HUNTER — 1990-1991: A locust plague prevented?

Gary P. FITT, P.C. GREGG, M.P. ZALUCKI and D.A.H.

- MURRAY — *Helicoverpa* abundance in inland Australia: a tale of two trapping systems.
- Gina E. DILLON and Gary P. FITT — Sampling procedures for *Heliothis* spp. in cotton.
- Martin L. DILLON and Gary P. FITT — Modelling the regional population dynamics of *Helicoverpa* spp.
- A. Mark SMITH — Modelling the development and survival of the pea weevil, *Bruchus pisorum* L., in field peas.
- Mali MALIPATIL — The identity of the "Australian dimpling bug" (Hemiptera: Miridae).
- Alison ROACH — The taxonomy and biology of *Anthrenocerus* Arrow (Coleoptera: Dermestidae).
- Glynn MAYNARD — Revision of *Leioproctus* (*Cladocerapis*) Cockerell (Hemiptera: Colletidae).
- Catherine GILBERT — Comparative bionomics of four species of wool moths (Tineidae).
- Ebbe NIELSEN — Australian tineid moths: systematics and diversity.
- Garry WEBB, Robert ELDRIDGE and Deborah KENT — *Aropalus syriacus* (Reitter) (Coleoptera: Cerambycidae): a potential economic pest of *Pinus* in Australia.
- Judith A. MELKSHAM — *Rhopalomyia californica* in south-east Queensland.
- Dennis HOPKINS and Geoff BAKER — Prospects for the control of white and conical snails.

Poster Exhibits

- Malcolm C. ARNEY — Ant/scale interactions on urban eucalyptus.
- A.D. AUSTIN, R.A. WHARTON and P.C. DANGERFIELD — Revision of the endemic Australian subfamily Trachypetinae Schulz (Hymenoptera: Braconidae).
- Robyn-Maree COY — Heritage listing invertebrate sites in Victoria.
- M.A. EBERT and L.J. HENDERSON — Insegar — a breakthrough for integrated pest management in Australian orchards.
- Department of Crop Protection, University of Adelaide — Postgraduate projects in entomology.
- R.C. RUSSELL, M. GEARY and J. LINLEY — Diagnostic morphological studies on mosquito eggs.
- Ary A. HOFFMANN and Michael TURELLI — Rapid spread of an endoparasite causing reproductive incompatibility in *Drosophila simulans*.
- Patrick M. HONAN — The fecundity of *Dialectica scalariella*,

- a biological control agent of Paterson's curse.
- Hyeon Cheal Park — The role of the wheatbelt termite, *Drepanotermes tamminensis* in nutrient cycling within native woodland and shrubland.
- Michael A. KELLER — Importation of natural enemies of sugarcane mealybug.
- Deborah KENT and Peter ALWAY — Sound production in Platypodidae.
- Raelene M. KWONG and Ross P. FIELD — Elm leaf beetle life history and distribution in Victoria.
- Sung-Eun LEE and Edith LEES — Esterase activity in adults and larvae of strains of *Oryzaephilus surinamensis* resistant to malathion, fenitrothion and chlorpyrifos-methyl.

Regional News

AUSTRALIAN CAPITAL TERRITORY

Australian National Insect Collection

As the Australian conference season ends, a flock of southern Antipodeans migrates northwards. Jo Berry, Jo Cardale and Ian Naumann are heading, by variously circuitous routes, to the Hymenopterists' gathering in Sheffield, U.K. The Odonatologists conference in Italy will be graced by the presence of John Trueman who will present a mix of traditional and heretical ideas on odonate phylogeny. Penny Gullan will be dropping in on coccidophile colleague Danièle Matile-Ferrero in the Paris Museum. Pete Cranston joins the Chironomidologists symposium in Amsterdam - did you know *symposium* derives from the Greek for a drinking session? All the above-mentioned, and Andy Austin from the Waite, converge thereafter on the Natural History Museum, London, where they will outnumber the remnant indigenous taxonomists. The soon-to-retire Keeper of Entomology will be replaced by an impromptu ballot. The incoming Keeper's first declaration will be the repatriation of all Australian/New Zealand type specimens, saving our employers and granting agencies tens of thousands of dollars in overseas travel.

Back in the 'real world', cladistics (without Coopers) got a wider exposure at the annual meetings of the Australian Society for Limnology (at lovely Lorne) and of our Society. From Canberra, Pete Cranston, John Trueman and door-prize winner Nick Drayson gave the limnologists some

systematics to digest. Ting Kui Qin replaced Nick in this triumvirate of cladists when they presented before A.E.S. in Melbourne. Polemics were out, but Andy Austin's pseudo-cladistics, or 'Clayton's cladograms', were identified in a few subsequent presentations. In a different session, Alison Roach presented her honours work on dermestid taxonomy and Catherine Gilbert described the biology of her cultured tineid pet (oops, pest) moths. Overseas entomologists in ANIC Jo Berry and Steve Shattuck (your next correspondent) refrained from comparing the standards of Australian conference presentations to those of their national societies - how diplomatic!

The Hymenopterists appeared to be well represented in Melbourne, with Jo Berry, Jo Cardale and Ian Naumann fraternising with students and colleagues from Brisbane and the Waite. Andrew Calder found fewer Coleopterists and the Dipterists were conspicuous by their absence.

Back in Canberra, Mary Carver is delighted by 3 years of support from the Rural Industry Research and Development Corporation. Following her redundancy, this RIRDC funding for databasing Australian aphids (identification, distribution, biology and economic importance) and their insect natural enemies is vindication of efforts to defend the relevance of her work. It is to be hoped that the next fight isn't to retain control of the funding.

Ray McInnes has retired since the last report, but will be very active in his retirement in running the A.N.I.C. fund and other philanthropic duties. Murray Upton's retirement is pretty active, since he has completed his Manual on Collection and Preservation of Insects and taken on the temporary role of Northern Territory entomologist. Geoff Clarke has been taken on to cover many of Ray's duties and hopes to manage some research on fluctuating asymmetry as an indicator of environmental stress. Plenty of press publicity and a research consultancy visit to the Soviet Union hasn't yet resulted in CSIRO recognition of the merits of the research, but Geoff doesn't give up easily.

Prior to A.E.S., Dennis Black (Monash) and er, um, Tony Postle (W.A. Inc.), visited us, raiding collections and seeking identifications respectively. Ted Edwards hosted a weekend visit to the Lepidoptera collections from a 'bus-full' of Sydney amateur entomologists. Cleide Costa from Museu de Zoologia da Universidade de Sao Paulo, Brazil, visited Andrew Calder and John Lawrence to discuss larval beetles and give a seminar on bioluminescence in the Coleoptera.

She then accompanied John to Hawaii, where he co-presented a prestigious beetle identification workshop. John stayed on at the Bishop Museum to curate their collections, then did the same for the California Academy collections.

Collection databasing has come to the ANIC, but now that ERIN (Barry Richardson's Environmental Resources Information Network) has provided some lubricant, databasing is to start in earnest. Tracy Harwood and Penny Andrews have been appointed to work with Toni Paine and undertake data abstraction and entry for selected 'indicator' taxa (less Lepidoptera, already over-databased). Chris Reid's project on ANIC beetles is underway, with funding from the same source.

Marianne Horak and Penny Greenslade have been overseas checking on the feasibility of the coup attempt in the Natural History Museum — Ebbe Nielsen has been everywhere, usually simultaneously.

Peter CRANSTON
Regional Councillor

CSIRO Division of Entomology

The pheromone group is at last moving into their new facilities in the space previously occupied by the electron microscopy group. Eric Rumbo was proud to host the lab-warming in mid-July. Richard Vickers is on his way to Papua New Guinea on a three week, ACIAR-funded project to evaluate the potential for pheromone monitoring and control of *Sesamia griseacens*, an important lepidopteran sugar cane borer. He'll be doing field trials on the utility of pheromones identified previously for other *Sesamia* species and then bringing some *S. griseacens* back to quarantine in Canberra for chemical and physiological pheromone work.

Roger Traynier and Ros Schumacher have been having great success with their work on oviposition stimulants in wool moths and are about to launch into work on wool-feeding dermestids as well.

Paul Jupp has been a happy lad recently. After he has worked on the eriophyid mite, *Aculus hyperici*, for what must have felt like forever, approval has been received and the mite released against St. John's wort, accompanied by lots of media coverage. Michael Storrs, previously of the sheep blowfly program, has moved to Kakadu to investigate why *Cyrtobagous salviniae* has not been as effective an agent against salvinia in this region as in others.

Mr Ren Yong Lin, from the People's Republic of China Ministry of Commerce, has joined the group in stored grain for 6 months to work on several aspects of fumigation of grain. Jan van Graver has begun the new ACIAR-funded project on outdoor storage of bagged commodities, and built the first prototype enclosure of bagged paddy in Canberra. Similar, but larger scale enclosures will be built in the Philippines in late July. A recent meeting of the Working Party on Grain Protection of the Australian Wheat Board was attended by Jim Desmarchelier and Jonathan Banks, who doctored in Jane Wright for a lot of work. Jim Desmarchelier has been pushing ahead in a new research area for the section on improving the economics of grain handling and storage. He has started on a GRDC-funded project with Peter Annis on suppression of wheat dust, initiated a collaborative project with Ron Wills of the Academy of Grain Technology on grain dust utilisation, and is planning collaborative work with Dr Abawi of the Queensland Department of Primary Industries on optimisation of harvest, storage and processing.

Dick and Anne Hughes are in Montpellier, France, working on their project screening for host plant resistance to the Russian wheat aphid. Keith Wardhaugh has returned from his third and final sortie to collect dung beetles in Spain. He collected and imported four species on this trip and is pleased to report that all have begun to oviposit in quarantine in Geelong.

Professor Rosa Paiva has returned to the New University of Lisbon after her 6 month sabbatical in Australia with Roger Farrow. She worked on the general biology of *Phoracantha semipunctata*, an important cerambycid pest of eucalyptus plantations in Europe.

Travel northwards is always a good idea this time of year. Brian Fletcher recently spent two hectic weeks for the Bureau of Rural Resources reviewing the program of monitoring for exotic fruit flies in the far north of Australia. Michael Lenz, Sil Runko and Leigh Miller headed to Darwin for their annual trip to collect termites and inspect ongoing field trials. Judy Staples and Tom Hartley also went north and spent 10 days treating termite mounds with the insect pathogenic fungus *Metarhizium anisopliae*, as part of a team project to develop an effective mycoinsecticide for control of termites.

Cheryl McRae is the new research scientist in the pathology group, moving from mycoherbicide research to



Judy Staples applies the environmentally-friendly green fungal spores to a termite mound.

mycoinsecticides. Her project concerns the pathogenicity and survival of *Metarhizium*; her first field trip to the north is next month. Richard Milner presented an invited paper on the selection and characterisation of strains of *Metarhizium* at a workshop on biological control of Locusts and Grasshoppers, held in Benin in late April. Richard, Ray Akhurst and Adam Smigielski attended the meeting of the Australian Society of Microbiology at the Gold Coast. Richard spoke on the interaction of insects and fungi; Ray and Adam spoke on their work on *Xenorhabdus* bacteria associated with nematodes.

John Curran and Robin Bedding have received an enormous grant for a 3 year ACIAR project on the nematode control of *Carposina nipponensis*, a major pest of the million hectares of apples in China. Their project is to further develop the production technology and establish pilot factories necessary to produce the 300 tonnes of nematodes required. They will also do an economic evaluation of major field and grower trials. Another new project being undertaken with Neil Treverrow of NSW Dept of Agriculture concerns control of banana weevil with nematodes. So far, the best of 35 species have been chosen, and with new adjuvants are showing good rates of parasitism.

Max Whitten delivered the keynote address at the IPM 200 Conference in Kuala Lumpur in May, then continued to Beijing on International Congress business.

Bureau of Rural Resources

Matt Cahill has just left the Bureau to take up a new position at Rothamstead in the U.K. on insecticide resistance. All the best for the future Matt.

Australian Plague Locust Commission

Winter is the time of year we try to do all those jobs we were too busy to do during the locust season, as well as squeeze in some leave to restore sanity. Genevieve Carruthers, Graeme Hamilton, David Hunter and Paul Zborowski attended the AGM in Melbourne in July. David and Genevieve presented papers; and Genevieve in particular must be congratulated for the way she juggled the demands of the conferences and (figuratively) baby Aaron. David and Graeme also attended the Conference on Agricultural Meteorology in July and were relieved to find that, if ENSO is anything to go by, we are in for a quiet locust season — we'll see!

Jane WRIGHT
Regional Councillor

NEW SOUTH WALES

METROPOLITAN SYDNEY NEWS

Sydney University — Medical Entomology at Westmead Hospital

Peter Wells has just returned from the Australian Society for Microbiology annual scientific meeting on the Gold Coast. Peter assisted in organising three symposia and co-authored a paper and poster with Richard Russell and Linda Hueston who is from the Virology Department at Westmead Hospital. Stephen Doggett and co-workers presented a poster on their research into Lyme Disease at the conference.

Stephen has been occupied with subculturing his spirochaetes that were isolated from ticks earlier this year. Stephen also presented a talk to the Microbiology Department at Wollongong University who invited him to speak on Lyme Disease in Australia.

John Clancy is busy completing the 1990/91 Arbovirus Surveillance Programme report and preparing for next mosquito season which is due to commence in October.

Merilyn Geary and Richard are continuing their investigations with seroprevalence of dog heartworm

antibody in humans in NSW. Merilyn is preparing a poster for presentation at the Entomology Conference in Melbourne later this month.

Chris Panter, a microbiologist from Gippsland, made a brief visit to our unit to discuss his latest research and catch up on old friends.

Biological & Chemical Research Institute, Rydalmere

The first good news for many months! A decision has been made on the proposal to relocate the Institute — we are to stay where we are, at least for the foreseeable future! Positions that are still vacant will, however, remain that way until the Government has determined how financially insolvent NSW has become. We may be poor, but at least we are unmoved.

John Hamilton departed on May 10 for a well-earned retirement in Tasmania after nearly thirty years with the Department. John was our entomologist responsible for solving entomological problems with vegetables and does not plan to grow a veggie garden in retirement. Victor Rajakulendran is at present acting in his position.

Murray Fletcher and Graham Brown visited CSIRO Entomology in Canberra 29-30 April to talk DETLA with Mike Dallwitz and to examine Hymenoptera. While there, they also attended a taxonomy discussion group meeting on the Tasmanian rainforest survey. The following month, Graham Brown made a trip to Lord Howe Island to organise regular light-trapping to monitor activity of *Batrachedra eurema*, the Kentia palm moth. Murray and Graham have managed a grant of nearly \$9,000 from the Lord Howe Island Board to fund this project for the next twelve months. Graham has also secured \$72,000 from Rural Industries Research and Development Corporation, jointly with Gus Campbell in Armidale, to undertake a 3 year study of the distribution of scarab parasites in relation to stands of remnant vegetation.

Graeme Baker was interviewed for Channel Seven's 11am program on 28 May. The segment was on biological control of grasshoppers using mermithid nematodes and Ann Sanders was suitably impressed.

Angie Condello is currently working on the J.W. Evans leafhopper collection which is situated at BCRI on long-term loan from the Australian Museum to which it was donated earlier this year. The collection is being expanded into larger cabinets and inserted into unit trays.

Eren Turak completed his term as Temporary Technical

Officer on 30 June and has moved to the Australian Museum on a part-time basis. Karen Harding left the Branch on 24 May to travel extensively around Europe and Danuta Knihinicki took a four-month leave on 6 July to do the same.

Alan Clift, Murray Fletcher, Grant Herron, Andrew Kotze, Graham Brown, Jeanette Rophail and Ross Parkes attended the 22nd Annual Conference of the Society in Melbourne in July.

Macquarie University

School of Biological Sciences

These notes are written just before second semester kicks off — a time of regret for all those things left undone.

The aphid group in the last few months has seen only two really active participants — Rita Holland, who managed to demonstrate *in situ* localisation of hnRNPs, and Lilian Blanco, who spent quite a bit of time in the dark considering matters related to plants and aphids and chlorophyll. Dinah Hales (apart from looking after the cultures) had little to do with the aphids, having become a slightly reluctant multi-media personality because of those freshwater millipedes. Among the outlets were campus media (print and radio), commercial and national radio and nation-wide commercial television: the thrust of the story was environmental rather than biological, and was centred on the University's willingness to withdraw from its plans for development of a lake if its continuation would have endangered the millipedes (as species). The discovery by our Research Unit for Biodiversity and Bioresources of a number of other populations was enough to allow the project to go ahead, with minor modifications. The biologists are still discussing ways and means with the Buildings and Grounds Office and the contractor, but substantial earth moving has already occurred.

What else is there? It's great to have Eren Turak back to continue his thesis writing, and to welcome Liz Holland who has now started on aphid mitochondrial DNA. Andy Beattie, Rod Peakall and Steven Handel have obtained a joint NSF/DITAC grant to study pollination by sexual deceit. Steve (Rutgers University, New Jersey) will be a regular visitor to Macquarie during the grant.

Jane Trimble, who was working on the "ant-antibiotics" has gone to live in Kuala Lumpur, and has been replaced in the lab by Jim Mackintosh. Myriam Lefebvre is spending three months in Würzburg working with Professor Kirchner.

There's an increasing level of activity in conservation biology, with Andy's entire lab planning to get to the Conservation conference in Brisbane, and with Rod Peakall recently back from the Workshop for Plant Viability analysis at the ANU field station, Kiola, where conservation genetics was very much on the agenda. This interest complements work in Dick Frankham's lab over recent years, where present work includes studies by PhD student Duncan Craven on problems in conservation genetics, using captive *Drosophila* populations as the basis for computer models. Dick, with Derek Spielman (Taronga Zoo) is doing an experiment to determine whether the addition of a single migrant to partially inbred populations of *Drosophila* will allow them to recover their reproductive performance. Work by Dick's honours student David Loebel in first semester showed very rapid genetic adaptation to captivity (of *Drosophila*, not honours students). Reproductive fitness doubled in eight generations compared with newly captured stock. The relevance of this to biological control is obvious and supports the view that success of release is inversely correlated with time in captivity. Finally, new Honours student Jayne Briton is studying the effects of harem structures versus equal sex ratio for effects on inbreeding, genetic variation, reproductive fitness and population size.

Army Malaria Research Unit

Bob Cooper and Tom Burkot (QIMR) spent a week in the Northern Territory collecting *Anopheles farauti* from the Cooida area. The specimens were processed at the Medical Entomology Branch in Darwin and many thanks to Peter Whelan for allowing us the use of his facilities. The material collected was used to clean up some anomalies previously encountered in identifying the sibling species of *An. farauti* from this region.

Bob has recently spent three weeks in the USA visiting Walter Reed Army Institute of Research, CDC Malaria Branch in Atlanta and the USDA Medical and Veterinary Entomology Laboratory in Gainesville.

Steve Frances has also been abroad visiting AFRIMS in Bangkok where he had talks with Ron Rosenberg and Dan Strickman regarding their dengue and scrub typhus research projects.

Tony Sweeney and Liz Brooke are soon off to the USA to attend the SIP annual conference in Arizona.

Nelson Johnson visited the Unit, Nelson was an Army

entomologist who during the early forties conducted larval surveys and larval control measures in the Bachelor-Katherine area to reduce the risk of malaria transmission in the area. Nelson gave a most interesting talk on some of the aspects of this work.

Traveller

Alan Dyce is off to the First International Symposium on Phlebotomine Sandflies to be held in Rome 4-6 September. It is scheduled to co-incide with the Tricentenary of the first description of a phlebotomine, published in Rome by Philippo Bonanni in 1691. On his way back he spends a week with Willis Wirth in Gainesville to complete a manuscript on some unusual *Culicoides*.

NSW Forestry Commission, Pennant Hills

On June 6, scientists from the Australian Museum and the Forestry Commission met at the Museum to continue their talks on possible future joint projects.

Australian Museum, Sydney

Collection Management under Max Moulds has been going ahead full steam. A large backlog of specimens is being labelled, sorted and incorporated into the collection. Major curation and sorting is planned for all orders, and the Coleoptera and part of the Hymenoptera have been completed. The great backlog of unsorted Diptera is also being worked. Two part time assistants, Julie Manning, from the University of NSW, and Eren Turak, currently a Masters student at Macquarie University, are assisting in this "Great Leap Forward".

The valuable John Evans collection of Homoptera has been donated to the Australian Museum by his wife, Faith Evans. This collection is worldwide in scope and reflects years of collecting and research by Dr Evans, a past Director of the Australian Museum.

Shane McEvey is continuing his work on a pilot GIS (Geographical Information System) for the Sydney Basin. Also he is editing a book on the collected papers of Hugh Patterson on recognition theory in Speciation.

Geoff Holloway came into the Museum for a visit. He is recovering slowly but surely. Dan Bickel attended the XIX Pacific Science Congress in Honolulu and sorted specimens at the Bishop Museum. Gerry Cassis is in Western Australia looking for *Drosera* associated mirid bugs.

Visitors included Rieks van Klinken from Brisbane on Macquarie Is. insects, Cleide Costa from Sao Paulo, Brazil on elaterid beetles, Tony Watson, ANIC on Odonata, and Research Associate Geoff Williams from Lansdowne to identify rainforest insects.

Merilyn GEARY and Dan BICKEL
Regional Councillors

NEW SOUTH WALES COUNTRY AREAS

Yanco Agricultural Institute

Citrus entomologists from most states converged on Yanco in mid July to attend an HRDC convened meeting on future research directions. Coordination of research efforts was a major aim of the meeting which should benefit industry, government and researchers alike.

David James attended the IPM seminar conducted by the Australian Society for Viticulture Oenology which was held in Mildura on July 12. He presented an update on current research into the potential of using predatory mites to control vine mite pests.

In early June David spent a wet few days collecting the reduviid *Pristhesancus* in Nambour and neighbouring areas in Queensland. This predator is currently being assessed as a biocontrol agent for spined citrus bug. Collaborative work with Jeff Aldrich (USDA) and Chris Moore (QDPI) on sex/attractant pheromones of *Pristhesancus* has yielded some very interesting data.

Mark Stevens is continuing his studies on the toxicology of rice bloodworms and aquatic snail pests of rice. He visited the University of Western Sydney (Hawkesbury) in late June, to attend a seminar given by Sat Singh on the Fijian rice leafroller pest *Marasmia exigua*. Mark is co-supervisor of Sat's PhD on this subject.

Agricultural Research and Veterinary Centre Orange

Prof. Mark Whalon, Michigan State University, USA visited Orange in May. At the time Mark was on sabbatical leave at Lincoln, New Zealand. During his two-day visit to Orange he discussed apple pest research with Graham Thwaite and local fruit industry leaders.

Col Bower and Graham Thwaite attended a meeting of some fruit entomologists and others at Stanthorpe, Queensland to review progress in a major HRDC funded mite project. This valuable meeting in mid-May was hosted

by Frank Page and Peter Mimmo.

A new publication dealing with pests and diseases of deciduous fruit, citrus and grapes in inland New South Wales is due for release in late August. The "Orchard and Vineyard Plant Protection Guide", originating from Orange, replaces two booklets, one of which has been produced annually for tablelands district fruit growers for 30 years.

Agricultural Research Centre, Tamworth

John Hosking and Royce Holtkamp attended the 6th Biennial Noxious Plants Conference at Leeton in May where they presented papers entitled "Biological Control of Broom (*Cytisus scoparius*)" and Biological Control of *Chrysanthemoides monilifera* respectively.

Royce Holtkamp visited Alan Fletcher Research Station (Queensland) to discuss biological control of bitou bush, *Chrysanthemoides monilifera* ssp *rotundata* with Rachel McFayden and John Cronin.

Robyn Gunning is spending four weeks during July in England and Scotland. During this time she will attend 'Resistance 91' to present a poster entitled "Pyrethroid Resistance Mechanisms in Australian *Helicoverpa armigera*".

Agricultural Institute, Wollongbar

Neil Treverrow and John McDonald visited Geoff Waite and Dan Smith (DPI Queensland) at Maroochy Research Station, Nambour on the 29 and 30 May. The trip proved most successful in that it provided an excellent opportunity for discussion of the various entomological pest management problems for bananas, litchis, macadamias ie. tropical horticultural crops.

Agricultural Research Station, Narrabri

Neil Forrester is currently travelling through Europe and the UK visiting various chemical companies, institutions and attending a conference or two, all in the name of *Helicoverpa* resistance research.

As this is my last stint as Regional Councillor and news gatherer I would like to thank all those in the NSW "bush" who responded so well to my requests for news (any news!) over the last 3 years.

David JAMES
Regional Councillor

QUEENSLAND

SOUTH EAST QUEENSLAND

Lands Department, Alan Fletcher Research Station

Rachel McFadyen and Marie Ablin (Tropical Weeds Research Centre) attended a workshop on tropical entomology in Townsville in July. While there, Rachel visited the Tropical Research Centre to work on the Rubber Vine (*Cryptostegia grandiflora*), identified by a recent National Parks and Wildlife sponsored study as the most critical weed requiring biological control.

Alan Tomley and Rachel made the first release in May of *Parthenium* rust. Also, permission has been given for the release of the stem boring Cochyliid, *Platphalonidia mystica*. Rachel says that renovations to the high security quarantine insectary have been completed and that many new insects are now in culture.

Qld Forestry Service

Ross Wylie visited the Burke and Wills "Dig Tree" in far SW Qld in May to determine its state of health and advise on measures for its conservation. Ross is travelling to China in early August under the Australia/China Agricultural Cooperation Agreement to investigate the status of insect pest problems in eucalypt plantations in southern regions.

Extension officer Judy King, attended a conference in Canberra on the 23-25 June. The title was "Trees - management issues for urban Australia" and while there she took some time out to visit the ANIC.

DPI Entomology Branch

There have been 5 redundancies in the branch since the last *Myrmecia*. John Rhodes (Indooroopilly, Apiculture), Don Rossiter (Toowoomba, Field Crops), David Ironside (Nambour, Horticulture), Karen Koch (Indooroopilly, Stored Grain), Valerie Byrne (Indooroopilly, Insect Pathology).

Many branch members attended the 5th Tropical Entomology Workshop at James Cook University Townsville 1-5th July.

Dan Smith (Nambour) and Dan Papacek (Munduberra) attended a gathering of citrus entomologists at Yanco 22-24 July.

Neil Heather and Bob Corcoran (Indooroopilly) will be attending the Australasian Post Harvest Conference in New Zealand in August. They will talk on the fruit fly disinfestation project and discuss fruit fly problems in relation to trade with NZ.

David Murray (Toowoomba) returned, full of enthusiasm from a 4-week study tour of the south-east USA cotton belt. Dave visited centres in Florida, Georgia, South Carolina, Mississippi, Louisiana and Texas to discuss aspects of biological control of heliothis and rearing techniques for heliothis and larval parasitoids. Cultures of *Cotesia kazak* and *Hyposoter didymator* are maintained in the Toowoomba laboratories and field releases are planned during the 1991/92 season.

Tamari Mala is visiting the Department until November. Mala is a technician at University of Papua New Guinea and will be working in the insect collections of QDPI, Qld Museum and UQ, studying techniques of preservation, presentation and storage of insect specimens. Mala has travelled widely in PNG on insect collecting trips and has known Elaine Brough (Indooroopilly) since her period as lecturer at U of PNG.

Merv Bengston, Greg Daglish and Graham White (Indooroopilly) will visit the Philippines, Malaysia and China on ACIAR projects August 12-25. They, together with Pat Collins and Allison Strange, attended a working party on grain protectants in Melbourne in July.

Lisa Halvorsen is visiting country centres of the branch during July/August. Lisa is an Ag Journalist from the Uni of Vermont looking at aspects of extension.

Neil Gough (Indooroopilly) is visiting Europe and North America for 4 weeks on a Qld Nursery Industry Association/HRDC study tour to visit workers on ornamental plant pests and present a paper on the population dynamics of plant-inhabiting mites at a conference in Amsterdam. The emphasis of his trip is on the use of insects and mites for biocontrol.

Brad Scholz (Toowoomba) has just returned from an 11 week trip to North America and Europe. Brad visited universities, government research institutions and commercial insectaries to discuss *Trichogramma* mass production and research.

Frank Page (Applethorpe) was very involved with a meeting in May to review progress and plan strategies in a Horticultural Research and Development Corporation (HRDC) funded project to implement the wider adoption of integrated mite control (IMC) in apples. Many researchers, consultants, and DPI extension and Plant Pathology staff attended. HRDC has approved a one year extension of the project as grower participation has not increased despite the

good results with IMC in a hot, dry season which favoured pest mite outbreaks. Major obstacles to acceptance of IMC include problems with control of apple dimpling bug, economic difficulties, and lack of confidence with a system which is more complicated and requires more knowledge and skill.

Queensland Institute of Medical Research

Brian Kay is visiting Townsville this week to check up on entomological aspects of the Ross Dam project and Tully Millstream hydroelectric scheme. QIMR are experiencing some upheaval at the moment with the move into the new Bancroft Building.

University of Queensland, Entomology Department

Eight members of the department attended the Australian Entomological Conference in Melbourne. Three papers were presented and Helen Wallace won the prize for best presentation - well done Helen! Myron Zalucki made full use of his time down there by attending the Agricultural Meteorological Conference where he delivered a paper on "Forecasting early season dynamics of *Heliothis* spp. in agricultural areas: the role of climate".

John Milne attended a workshop on pollen borne viruses at the Washington State University in May where he presented a paper, "Thrips down under". John then proceeded to the University of Hawaii for more discussions on thrips.

Gimme Walter visited the Dept of Entomology and Ecology, Turku University in Finland during June to finalise his experiments on sawfly sex ratios. He is now in Thailand for one month on an ACIAR grant with Dick Drew researching fruit fly parasites for possible biological control. Gimme will be joined by Krisana Rungrojwanich, a PhD student in the department, who is also working on fruit flies.

Ex student of the department, Dave Merrit, has returned to Australia after 3 years in the USA to take up a postdoc at UNE working on the neurophysiology of *Drosophila*. Dave, wife Julie and daughter Lucy made full use of their time in Brisbane catching up with family and friends.

Our electronics wizard, Phil Webb, is leaving soon for medical reasons and we wish him well in his retirement.

Visits to the department were made by: John Endler, the well known evolutionist, from the University of California, Santa Barbara; Derek Maelzer, from Waite Institute, to

assist Myron Zalucki in the analysis of long term *Heliothis* light trap data; and Lesley Ballantyne, from Charles Sturt University, to discuss her PhD on fireflies.

Congratulations are in order for Tim Heard for submitting his PhD thesis on "Aspects of pollination of *Macadamia* and cashew", for Lewis Wilson for submitting his PhD thesis on the "Management and ecology of mites in cotton" and for Laraine Olley for passing her Honours.

CSIRO, Long Pocket

Don Sands, Tony Wright and Wendy Forno will be presenting papers at the International Conference on Biological Control in Tropical Agriculture in Malaysia at the end of August.

Tony Wright was in north Qld during July, fitting up field study sites for biological control of water hyacinth.

Grant Farrell visited Long Pocket Laboratories to talk to Wendy Forno about field variations in insects used for the biological control of *Mimosa pigra*.

Toowoomba

Congratulations to Ian Common, whose book "Moths of Australia" (Melbourne University Press) received the Whitley Silver Medal from the Royal Zoological Society of New South Wales at a ceremony in Sydney on August 6. This prestigious award is not presented every year, only when there is a work that is considered to be making a major contribution to the advancement of Australian Zoology. His book, which has been acclaimed as "the best textbook on moths available in the world today", received the award in the category for reference books. Ian was in Sydney to receive the award in person.

Des FOLEY & Bernie FRANZMANN
Regional Councillors

NORTH QUEENSLAND NEWS

Dan Smith, Dan Papacek & Rod Elder travelled to Ayr, Mareeba and Charters Towers in late May to assess progress of biocontrol trials in scales on papaws and citrus.

Bryan Cantrell spent several days in Ayr, South Johnstone and Mareeba with respect to future developments in DPI Entomology Branch Management.

Bruno Pinese is currently back in Java on a second attempt to bring a wasp parasite of the avocado leafroller,

Homona spargotis into Queensland.

After the highly successful Fifth Workshop in Tropical Agricultural Entomology in Townsville (see report elsewhere) several participants dispersed to other nearby centres.

Rachel McFadyen spent time at the Tropical Weeds Research Centre in Charters Towers. Stuart Smith and Jaye Layland had a quick visit to the Atherton Tableland and South Johnstone before returning to Darwin. A Moto Guise, rumoured to be carrying Dan Papacek and Jeff Watson, was last seen heading for Cairns.



At the Kuranda launch of the book on Frederick Parkhurst Dodd were Paul and Sue Wright (2nd from left and far right) proprietors of the Australian Butterfly Sanctuary, the world's largest butterfly display house and one of Kuanda's leading tourist attractions. They are with two of F.P.Dodd's granddaughters, Margery Turner from Atherton (left) and Eileen Allen from Ravenshoe (right). Both are daughters of F.P.Dodd's eldest son, the late Frederick William Dodd.

After more than 50 years the famous F.P. Dodd Collection of spectacular tropical insects made a sentimental return to north Queensland when it was opened at the Freshwater Connection Museum, Cairns, by Mulgrave Shire Chairman, Tom Pyne, on July 22. Geoff Monteith's book on F.P. Dodd, "The Butterfly Man of Kuranda", was launched the next night in the CWA Hall in Kuranda with 70 local townsfolk, Dodd relatives and insect enthusiasts attending to hear Geoff lecture on the life of Kuranda's noted entomologist from the turn of the century. Appropriately the Ladies Auxiliary served a supper of butterfly cakes to close the evening. Officiating at the launch was Paul Wright, Kuranda's latter-day "Butterfly Man" whose successful butterfly tourist enterprise in Kuranda is assisting financially both with the mounting of the Dodd Travelling Exhibition at

its Freshwater venue and with the "Insects in the Classroom" workshops which the Queensland Museum is running in conjunction with the touring exhibition.

To mark the return of the Dodd Collection to north Queensland F.P. Dodd's descendants arranged for additions to be made to his tombstone in Kuranda cemetery. It now bears the words "The Butterfly Man of Kuranda" plus the verse from Longfellow which Dodd depicted in tiny moths in 1917 in one of his more notable display cases. The same case is part of the present Travelling Exhibition from the Queensland Museum. The Exhibition remains at Freshwater until September 8 after which it will be on show at the Public Libraries at Innisfail (11-25 September), Atherton (28 Sept-19 Oct) and Thuringowa (Townsville) (23 Oct-10 Nov), before moving south to centres in South Queensland.

Ross STOREY
Regional Councillor

VICTORIA

Department of Agriculture, Institute of Plant Sciences, Burnley

Well, we made it! The 22nd AGM is over and the Organising Committee can relax — well not really, now we have to catch up on all our other work. The Conference was well attended by Burnley entomologists. Janet Horne, Paul Horne, Andrew Henderson, Mali Malipatil and Jim Woodward (honorary entomologist) on the Committee; Mark Smith, Garry McDonald, Peter Williams, John MacFarlane, Steve Gagen and Mali gave papers; Anthony O'Toole and Peter Cole prepared posters (Anthony won best poster); Peter Ridland, Gordon Berg and John Osmelak also attended. We met up with three retired Burnley entomologists at the Conference: Tom Hogan, David Morris and Peter Shelden. Several entomologists, and other scientists, are gearing up for the visit by the Australian Wool Corporation's PRAC Committee on July 31st. There is much work in progress on preparation of posters, displays and printed handouts (even the conference room has had a coat of paint!).

Recent visitors to the Institute include Greg Baker from the SA Department of Agriculture to discuss pea weevils with Mark Smith and Mark Whalon from Michigan State University to discuss IPM with several entomologists.

Department of Agriculture, Sunraysia Horticultural Centre, Mildura

Greg Buchanan's thesis on "The distribution, biology and control of grape phylloxera in Victoria" has been approved for a PhD by La Trobe University. Greg promptly celebrated by heading to the Sunshine Coast for three weeks of sun, surf and whatever else he could think of. This included a visit to Dan Smith at Maroochy Horticultural Research Centre to discuss citrus entomology. On the way back to Mildura, Greg met up with other citrus entomologists at Yanco for a HRDC-sponsored meeting on citrus projects.

A seminar on grape integrated pest management was held at Mildura on Friday 12th July. The seminar, organised by the Australian Society for Viticulture and Oenology, attracted nearly 300 participants, and followed on from a previous seminar dealing with grape disease management. Local content included a paper by David Madge, and a paper on grape phylloxera presented by John Whiting. Visiting speakers included David James (Yanco), David Williams (Burnley), and Michael Saunders (Pennsylvania).

Department of Agriculture, Institute for Sustainable Development, Tatura

The new conference facilities at the ISD were stretched "to the max" on Monday, 22 July when attendance at the seminar "Integrated Pest Management in the Orchard" topped 160. The original intention was to have 120 registrants from the chemical industry, orchard consultants and orchardists drawn from all over Victoria and southern NSW. Ian Barrass reports that about 40 registrations had to be returned because all the seats had been filled well before the day. The excellent turn-out was partly due to rural media support for the event, but the high level of interest was attributed mainly to the expertise of the speakers.

Dr Michael Saunders A/Prof Entomology, Penn. State University spoke on the development of expert systems and demonstrated their use; Dr Colin Bower, NSW Ag. & Fisheries spoke on the use of IPM to delay the onset of pest resistance to agricultural chemicals; Mr Brian Young, Spray Search, (ex-ICI Jealot's Hill Research Station), discussed the technical aspects of spray application; Dr Robert Seem, Asst. Director, Ag. Expt. Station, Geneva, New York, discussed minimal reliance on fungicides in New York apple orchards. Other speakers discussed the consumer's perspective, successful orchard management, recognition of

pests and beneficials and tree row volume spraying.

La Trobe University, Department of Zoology

Mr Wang Qiao, formerly Associate Professor at the Southwest Agriculture University, Chongqing, China, is currently a PhD student studying the systematics and biogeography of the tribe Phoracanthini (Cerambycidae) and is cooperating with the University of California (Riverside) in supplying parasites of Californian pest species.

David Britton, MSc student studying the feeding ecology of Lepidoptera on *Pinus radiata*, joined Ian Thornton's Krakatau research team and on a curtailed expedition in April began fogging *Casuarina* trees on the emergent island Anak Krakatau, as part of an attempt to understand the ecological relationships of animals on this young island. He hopes to return in April 1992 to complete the work.

Evan Schmidt, PhD student, is hoping to attend a Psocoptera workshop in Mexico later this year and has recently taken the post of part-time demonstrator in Zoology at La Trobe.

Edang Sri Kentjonowati (University Udayana, Bali) and MSc student, leaves for Java, Bali and Nusa Tenggara, Indonesia in July on extended field work in connection with her study of the systematics and biogeography of Indonesian Psocidae (Psocoptera).

Dennis Black, demonstrator in Zoology will be collecting millipedes in eastern NSW and southern Queensland from mid-June to mid-July. This trip is funded by an ABRIS grant for taxonomic work on several millipede orders. Dennis has received a CSIRO/La Trobe University grant of \$5,670 to sort the millipedes in the National Insect Collection to family level and produce a key to the families of Australian millipedes.

Dr Michael Schwarz (Departments of Genetics and Zoology) has recently been awarded a Research Fellowship by the Australian Research Council for five years to carry out studies on sociality in native bees. He will be looking at the genetic bases of intra-specific social variation. Michael also addressed the AGM of the Victorian Apirists Association in Echua on current progress of a research project assessing competition between honeybees and native bees.

Letitia Silberbauer will be travelling to Canada in August and will visit Laurence Packer's groups working on North American sweat bees.

CSIRO, Division of Forest Products, Clayton

Staff are gradually settling into their new premises, with the usual teething problems when dealing with Government architects and administrators. In fact, while John French was overseas to attend the International Research Group on Wood Preservation at Kyoto in Japan, the architects quietly reduced his office by one third. The fax machine ran hot!

At the Kyoto meeting, John presented two papers on termites dealing with standardisation of methods and principles of testing termiticides, and another on the use of physical barriers and bait toxicants as being new directions in future termite control strategies. The weather was glorious in May, and Kyoto is a beautiful city, especially if you like temples. Things are very expensive, with a bottle of Black Label costing over Aust\$200, so buy up in Hong Kong! The Kyoto International Conference Centre is extremely well appointed and equipped, and set in delighted gardens and parklands. Seventeen papers on termites were presented at the scientific conference. The Japanese called John "French-san"; until he informed them he used to be called "Nappysan" when he was younger. But everyone was so friendly, and Japanese-Australian relations were never better.

After Japan, John and his wife Alison returned to Australia via Sabah, where they visited orangutans and saw turtles laying eggs near Sandakan, and hiked in the rainforest near Mount Kinabalu; dropped into Kuala Lumpur and Malacca, and Jakarta. John only saw two termite active sites; one when he walked on part of a small bridge across a stream in the rainforest, and it collapsed, *Schedorhino-termes* sp.; the other was in Jakarta, with drywood termites eating his friend's house!

Meanwhile back home, Jim Creffield has just returned from fieldwork in Darwin (and Bali) with Leigh Miller, Division of Entomology, Canberra. Jim has restocked the insectaries with *Mastotermes* and *Coptotermes acinaciformis*.

Visitors to the laboratory include Mike Quillan and David Judd of Agrisense, Deborah Kent of the New South Wales Forestry Commission and H.C. Park of the Western Australian Institute of Technology.

Department of Conservation and Environment, Keith Turnbull Research Institute

Ross Field, Raylene Kwong, Patrick Honan, John Weiss and Tammy Schindler recently attended the 22nd Australian

Entomological Society Conference held at Melbourne University. Ross Field has received an Australian Entomological Society Research Grant to investigate the biology of the butterfly *Ogyris idmo* complex in Western Australia during October 1991.

David McLaren is about to start an educational project on biological control by getting students at Yarram High School to rear *Cochylis atricapitana*, a biological control agent of ragwort. This should give the students a practical understanding of biological control while also providing insects for release.

El Bruzzese has recently received shipments of *Urophora stylata* for biological control of thistles. *U. stylata* is currently undergoing host specificity testing. Raylene Kwong is hoping to receive a shipment of *Erynniopsis antennata*, a tachinid parasitoid of the elm leaf beetle, in September. John Weiss's biological control project on horehound received a boost with news that a plume moth, *Pterophorus spilodactylus*, is being brought into Australia for host specificity testing in September. *Aculus hyperici*, a mite that attacks St. John's wort has been sent to KTRI for mass rearing. Ros Shepherd hopes to start releasing the mite later in spring.

Janet HORNE and Alan YEN
Regional Councillors

WESTERN AUSTRALIA

WA Museum

Dick Perry has donated his entire collection to the Museum. This comprises 1174 alcohol-preserved series. The collection provides a complete coverage of the known termite fauna of WA and should be an important tool for identification of local species.

Andy Austin visited the Entomology Section briefly on 19th June to scan the gasteruptionid wasp collection and cull out material for the use of John Jennings.

Conservation and Land Management

Ian Abbott has completed two bulky papers about insect herbivory and phenology in the Jarrah forest during 1985-1990. A detailed listing of all described species of insect occurring in forests of southern Western Australia has also been finalised. This list includes locality records.

Agriculture Protection Board

The Argentine ant research team is now in the final stages of the toxic bait studies in the laboratory. Before starting on growth regulators, some field experiments will be done with the toxic bait. There are some small colonies of Argentine ants that are nesting in isolated trees situated in one of Perth's lakes. If eradication is achieved in these trees, baiting of larger colonies will be trialed.

Agriculture Department

Ian Dadour, Francoise Berlandier and Peter Davis travelled to Melbourne for the AES conference and AGM. All three found the trip most useful. Francoise talked to fellow aphidologists and was pleased to learn about the kind of research being carried out at the WAITE Institute. She does feel a bit lonely, being stuck out in the West. Peter Davis was mainly caught up with council meetings and Ian renewed his ties with his ex-colleagues from the WAITE.

Ian, in collaboration with colleagues in the Division of Animal Health and Animal Production were successful in obtaining an AWC grant of \$240,000 to research pyrethroid resistance in sheep lice over a period of three years.

Curtin University

Bronwyn Houlding is currently undertaking a study of integrated pest management in strawberries for a MAppSc. She received a grant from the Strawberry Growers Association and HRCDC. She has commenced sampling for invertebrates and will be speaking at a Strawberry Growers field day in August. She also plans to meet with a visiting representative from Biocontrol about some predatory mite agents.

That's all folks!

John Van SCHAGEN
Regional Councillor (WA)

TASMANIA

Department of Primary Industry, Tasmania

John Ireson and Stephen Paterson imported eggs of the black boneseed beetle from Keith Turnbull Institute in May. The Department of Parks, Wildlife and Heritage provided \$800 for Stephen to visit rearing facilities at KTI. Rearing at Newtown Research Laboratories is progressing well for anticipated releases in spring. Peter McQuillan has been

acting chief of the Plant Protection Branch until late July. Besides her usual workload Margaret Williams has been organising the 1992 AGM for Hobart where delegates will see 'The Big Tree', sizzle sausages at the Pagoda and visit a town called National Park. Lionel Hill is writing reports on native budworm, corn earworm and potato tuber moth studies.

Queen Victoria Museum, Launceston

Michael Fletcher of Tasmanian Farmers and Graziers Association has prepared insect displays for the new children's self education room at QVM. During my visits there the displays were being put to good use by visiting classes. With Tim Kingston as the new state councillor we should hear more about the education room in future *Myrmeciae*.

Michael's live rearing display of helena gum moth has finished but was excellent while it lasted. He has also listed butterfly specimens held at QVM and is currently working on the moths in his spare time.

Tasmanian Museum and Art Gallery, Hobart

Alison Green, Curator of Invertebrate Zoology, is currently on leave until early retirement in October 1991. After re-settlement in Launceston Alison plans to continue research on the Oniscidean Isopoda. Where would Australian taxonomy be without its keen retirees?

Forestry Commission

Dick Bashford has worked in forestry entomology for 20 years so we are glad to see him finally become a member and stop borrowing Humphrey Elliott's copy of *Myrmecia*. Dick reports that gum leaf skeletonizer defoliated hundreds of hectares of dry sclerophyll *Eucalyptus amygdalina*, *E. viminalis* and *E. obliqua* at the end of last summer. Since then many skeletonizer eggs have been laid on new foliage of these trees. Some *E. nitens* plantations were also defoliated at the end of the outbreak.

Anna Leon is refining helicopter application of *Bacillus thuringiensis* sprays for leaf beetles. As a cheaper powder formulation replaces a liquid formulation the Commission hopes to use *B.t.* for all spraying in its areas, rather than the current half, and phase out synthetic pyrethroids.

Dick and Humphrey are also finalizing 2 of 3 papers that will report a "before, during and 7 years after" study of forest regeneration on the east coast. These papers (Ecological

Entomology and Australian Forestry) will deal with diversity and numbers of 1300 species collected on or reared from plants over 20cm high. Future reports will deal with light trap samples and experimental log borer studies.

University of Tasmania

In the Zoology Department Jean Jackson has submitted her PhD thesis on the systematics of trichopteran families Coenosuchidae, Helicopsychidae and Calocidae. Jean is now available for paid research!

In Agricultural Science Robert Mensah has been awarded a PhD for his thesis on integrated management of psyllids in *Boronia* crops. John Madden is now head of the Resource Protection Group which is one of 3 groups in the new Centre for Temperate Hardwood Forestry, a Collaborative Research Centre. David de Little of Associated Pulp and Paper Mills is a member of the same group. The centre is offering post doctoral fellowships for research to increase the efficiency of natural controls of leaf beetles.

Melbourne AGM

John Madden, Tim Kingston, Jean Jackson, Peter McQuillan and Lionel Hill attended the Melbourne AGM. Tim and Lionel also attended the second Council of Heads of Australian Entomological Collections in Melbourne.

Lionel HILL
Regional Councillor

NORTHERN TERRITORY

Office of the Supervising Scientist — Alligator Rivers Region Research Institute

Peter Dostine and the rest of the Biological Monitoring group are still anxious to learn of the repercussions of the Commonwealth's decision not to allow mining at Coronation Hill. Peter is currently on a binge of chironomid identification and is slowing disappearing beneath a mountain of glass slides. The rest of the section look on with disinterest, or have gone to Bali.

DPIF — Entomology Section

Thrips palmi has dominated activities within the section over the last couple of months. The current situation is that South Australia and Queensland have placed bans on

produce from properties with known records of *T. palmi* or with records of *T. palmi* within one kilometre of the property. To receive "property freedom" certification, each property must be monitored by the section on a weekly basis. The section is also involved in insecticide trials and registration; determination of simple *T. palmi* extraction and identification methods; life cycle work; post-harvest dipping; as well as describing dispersal behaviour and alternate host plants. So it's go go go!

James Altman from Loxton, South Australia, visited briefly to utilise our facilities in a search for pink bollworm parasites for US interests.

Welcome to Murray Upton, ex-CSIRO Canberra ANIC, for a period of three months whilst Stuart Smith is on a consultancy overseas. We know that Murray's experience and expertise will come in handy rearranging a currently dilapidated insect collection; helping identifying and mounting *T. palmi*; and numerous other tasks well out of the realm of present staff.

Welcome also to two new staff members appointed with a Government grant for work on *T. palmi* - Elliot Crowson and Chris Ford, both from within the Department.

Kerith Wilson has departed for greener pastures — we wish her well. Susan Gall, ex-cashew work with Wayne Houston at Wildman River, is helping with the *Campylomma* sp. work whilst Haidee Brown is on ten weeks recreation leave.

DPIF — Quarantine and Inspection

Northern Territory quarantine has been dealt a "double whammy" in recent months, and Ted Fenner is being kept busy fighting back. *Thrips palmi* is proving to be controversial — well out of proportion to its puny size. In his capacity as Chief Quarantine Officer (Plants), Ted has also been heavily involved in eradication measures against an outbreak of Citrus Canker disease.

At the end of May, Bill Roberts (BRR), Brian Fletcher (CSIRO) and Peter Ridland (DARA, Victoria) spent a few days in the Top End reviewing surveillance measures against exotic fruit flies. Hermes Perona took them to trap sites on Melville Island, and he, Ted, and staff of the Entomology Section discussed the NT fruit fly situation.

Hermes and Ted learnt a lot at the Tropical Entomology Workshop in Townsville in July, including aspects of the social behaviour of their colleagues.

Butterfly hunters known to have visited included Steve Brown (Wollongong) and Grant Miller (Lismore).

DPIF — Weeds Section

Carey Smith visited the USA recently to examine their incipient *Mimosa pigra* problem. She spoke to sessiid moth expert T.D. Eichlin who gave her some pheromones way past their use-by date that may prove attractive to males of our introduced biocontrol agent *Carmentis*. So far the males have preferred the real thing.

Al Cofrancesco and Bob Grunkel from the US Army Corps of Engineers Waterways Experiment Station, along with their Townsville-based countrymen Joe Balciunas, visited Darwin recently. They were seeking Australian insects that eat *Hydrilla* and *Melaleuca* for use back home, but the sight of our *Mimosa* really scared the pants off them. They laid out a transect with some aquatic fauna survey probes in a local waterway, but stocks of barramundi remain secure.

Mr Manop Siriworakul and Mr Pramook Benyasut from the Thailand Royal Irrigation Department visited Darwin and Katherine as part of the ACIAR *Mimosa* control program. Coming from a Bangkok summer, they found Darwin's weather a trifle chilly.

CSIRO, Division of Wildlife and Ecology

Alan Andersen is currently finishing a paper on studies using ant community structure as a measure of the success of rehabilitation work by Ranger Uranium. Alan is also co-authoring a book with Dr Peter Jacklyn on the termites of the Top End. Recent visitors to CSIRO include Dr Hall Cushman (Macquarie University) and Vanessa Rashbrook (Sydney University) — both are interested in ant mutualisms.

NT Health — Medical Entomology Branch

The branch welcomes Paul Donaldson as its newest member. Paul is a recent graduate from the University of the NT and has been involved in general entomology. He will be making more detailed insights into mosquitoes and vector control in the coming months.

Dave Logan, Wendy Kelton and Peter Whelan have been involved in an in-depth investigation of biting insects for a proposed canal development in Darwin.

Peter Whelan delivered a paper on the Ross River Virus epidemic in the NT this year at the Australian Society of Microbiologists symposium on the Gold Coast.

Recent visitors included Bob Cooper (Army Malaria Research Unit, Sydney) and Tom Burkot (QIMR, Brisbane), who shared our facilities for processing collections of *Anopheles farauti* for DNA probe investigations. They discussed cooperative efforts to investigate some *A. farauti* anomalies in Kakadu.

Peter DOSTINE
NT Regional Councillor

SOUTH AUSTRALIA

Crop Protection Department (Entomology Group) Waite Institute

The past three months have seen much activity on the teaching front but little else, with Mike Keller, Andy Austin and Duddley Pinnock all involved in senior entomology subjects or other teaching commitments. Trudy Thumler has submitted her honours thesis on the biology and parasitoides of the leaf-blister sawfly, and will see the year out working as a part-time technical assistant with Andy Austin and finishing two subjects to complete her degree. Derek Maelzer has fled north to warmer climes (he does every year!) to spend a few weeks in Myron Zalucki's laboratory to do more work with their *Heliothis* data.

Most of the insect pathology laboratory is overseas or is about to go. Dudley Pinnock is currently on safari in Kenya, surveying blowfly populations for pathogens. He will then attend the 'B.I.-91' conference in Oxford along with David Cooper and Jane Drummond. Jane is already in the UK working for a few weeks at Rothamsted. The group is then travelling to Flagstaff, Arizona to attend the Society of Invertebrate Pathology Meeting.

A large contingent from the Department made its way to the Entomological Society Conference in Melbourne and at least one staff member paid the price to the Victorian Police Department (more than a cheap airfare is worth!). In all the group contributed six papers and four posters to the proceedings.

Department of Agriculture

Dennis Hopkins recently attended the stored grain working party at Werribee, Victoria and Greg Baker has visited Mark Smith, VPRI, Burnley to discuss pea weevil research.

University of South Australia (Mosquito Research Group)

It has taken most of this year so far for Lawrie Bennett and Mike Kokkinn to get their laboratory properly set up (I see the experienced ones among you nodding wisely). There is now an excellent culture facility for *Culex quinquefasciatus* as well as a series of environmental cabinets. Future plans involve temperature/growth and development work, olfactometry, and a secret project that will shake the walls of entomology!

Alan Mead is currently visiting Jurek Kolasa at Hamilton in Canada to renew their research collaboration on the systematics of *Mesostoma* (not an insect, but a flatworm!). The significance of this is that Grant Fleming's PhD project involves an investigation of several newly discovered *Mesostoma* spp. as potential control organisms for small environment mosquitoes (e.g. *Aedes aegypti*). Grant continues under the joint supervision of Alan and Mike to do interesting work on mosquito predation by flatworms.

South Australian Health Commission

Phil Weinstein has started work as an epidemiologist in the Communicable Disease Control Unit and has already had to deal with a number of entomological problems. A large number of school outbreaks of headlice have occurred in the last few months, and are believed to be due to lice developing resistance of the pyrethrin-based pediculicides currently in use. Consequently, the treatment recommendations have now been changed to maldison-based products.

This year has also been an epidemic year for the main South Australian arbovirus, Ross River Virus. Almost 70 cases of clinical illness (epidemic polyarthritis) have been notified, indicating that up to 700 people may have been infected with the virus. The major vector was *Culex annulirostris*, but the SAHC has stopped subsidising the mosquito counting previously carried out by the Entomology Department at the Waite Institute. New directions are being developed for RRV vector and disease surveillance, and these were outlined by Phil at the Society Conference in Melbourne.

Ron Turner was involved in controlling a minor plague of the biting midge, *Culicoides victoriana*, near Loxton. Seepage from an irrigated vineyard had created a huge breeding ground adjacent to a residential area, and 40 ha were

sprayed with maldison in May. Fortunately, citrus-orchards were not involved, or such spraying would have been impossible because of the risk to biological control agents.

On a lighter note, two people presented to Scott Cameron for diagnosis of their "insect bites" of unknown origin: the culprits were *Cimex lectularius* bedbugs from a campervan they had rented!

Andy AUSTIN
Regional Councillor

Overseas News

NEW ZEALAND

Dr Barbara Barratt was elected President of the Entomological Society of New Zealand at The Annual Meeting in May at Waikato University. Barbara was educated in the UK and went to Durham University where she did a BSc in Zoo-

logy and a PhD in Entomology. Barbara came to New Zealand as a Post-Doctoral Fellow based at Invermay to work on insect problems in high country pasture development.

Barbara joined the permanent staff at Invermay in 1981 and continued to work mainly in tussock grassland on broad-nosed weevil damage to oversown white clover, and *Odontria striata* biology and control. She is now the programme leader of the Plant Protection Group at Invermay, moving more into pasture and crop weed and pest management with reduced pesticide input.

A member of the New Zealand Entomological Society since 1978, Barbara was the first President of the Otago Branch and has recently published a book with colleagues at Invermay entitled "Grass grub and porina in Otago and Southland: A guide to Management and Control". Barbara's other interests of an entomological nature include NZ Coleoptera, and particularly scarabs and weevils.

Barbara holds the distinction of being the first female President of the Society. Barbara's outstanding record as a scientist will ensure the Society's continued prosperity.

John TENQUIST
New Zealand Correspondent



Barbara Barratt, newly elected President of the Entomological Society of New Zealand.

PAPUA NEW GUINEA

Ms Marie Ablin, Entomologist, Alan Fletcher Weeds Research Centre, Charters Towers, visited PNG in order to study at first hand the problems associated with the rearing of *Heteropsylla* sp. on *Mimosa invisa* under quarantine conditions. Mr Samson Laup carried out a survey (May 6-10, 1991) of the extent of spread of water hyacinth in the Sepik River system. Dr G. Schaeffer of GTZ Biological Control Project, Suva visited PNG (May 22-23, 1991) and called on Fred Dorii, Ray Kumar and Samson Laup to discuss the biological control projects in PNG. Ray Kumar and his family visited Brisbane, Charters Towers and Cairns from June 2-14, 1991, Ray renewed contacts with entomologists at CSIRO, DPI, UQ, QM and visited Alan Fletcher Weeds Research Centre, Charters Towers. He also delivered a talk (11.6.91) on insect pest problems in PNG Agriculture to the Queensland Entomological Society.

Ray KUMAR
PNG Correspondent

News from Affiliated Societies

Entomological Society of NSW Inc

In May Peter Lamond (W.A. Flick & Co.) gave an informative talk on UBI's (unidentified biting insects). He was able to describe the "bugs" responsible for delusory parasitosis as "black or white initially but may change colour, often jump, may infest a patient's hair and may emerge from common household items".

Garry Levot (BCRI) gave the June talk which dealt with poultry pests was entitled "Chooks mite fly".

The July meeting was held at the Quarantine Inspection Services premises at Rosebery. A talk on quarantine and inspection of the facilities was given by Brian Read.

Graham BROWN
Representative Councillor

Book Review

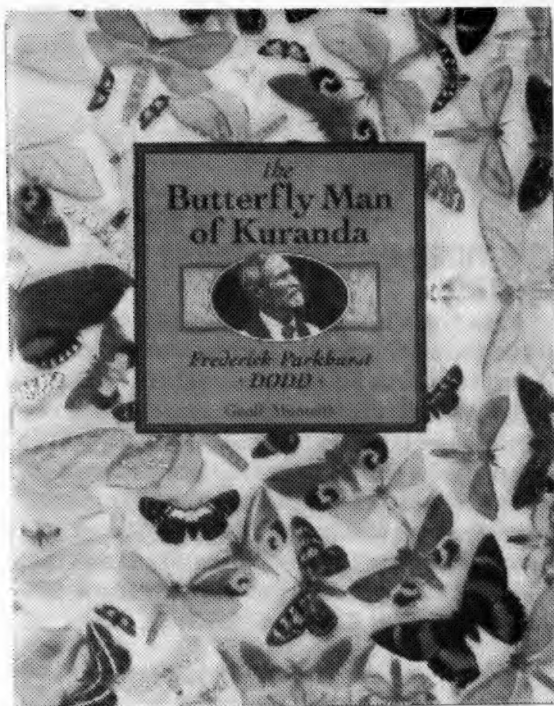
The Butterfly Man of Kuranda. Frederick Parkhurst Dodd. By Geoff Monteith, 1991. Queensland Museum, Brisbane. 34 pp. Soft Cover. RRP \$9.95.

This is a factual, objective and well documented account of the life and entomological activities of an internationally recognized and respected insect collector and naturalist of the old school. The thousands of insect specimens supplied by F.P. Dodd to the leading collectors and descriptive taxonomists of his day in Europe and Australia have contributed substantially to our knowledge of the fauna of tropical Queensland. Although the sale of the insect specimens provided Dodd and his family with a livelihood for many years, he devoted much time to studying the biology of the species he collected, and the authenticity of many of his original, published observations has been confirmed by modern work. As he worked at a time when definitive labelling of insect specimens was not given a high priority, it is not surprising that some minor questions have arisen about the origin of a few of Dodd's specimens. Nevertheless, Dodd made a very significant contribution to Australian entomology.

In 1879, at the age of 18, Dodd joined the Union Bank in

Victoria. After transfer to Townsville about 1885 he became seriously interested in collecting insects, and his interest was further stimulated by contact with Brisbane entomologists. At the age of 34, and already married with a young family, he made the courageous decision to leave the bank and become a commercial collector. He worked first at Brisbane and then at Townsville, where his house was destroyed in a cyclone, and finally settled in Kuranda, where he spent the rest of his life. Dodd's financial success as an insect supplier was in no small measure aided by his wife and six surviving children, who soon became interested in collecting and rearing specimens. One of the sons, Walter, accompanied his father on various collecting expeditions and later became an official collector for the South Australian Museum, Adelaide. Another son, Alan, became a professional entomologist and was instrumental in introducing *Cactoblastis* to Australia for the successful biological control of prickly pear.

From 1910 until his death in 1937 Dodd mounted a spectacular insect display at his home in Kuranda, which was viewed by countless tourists and other visitors. The



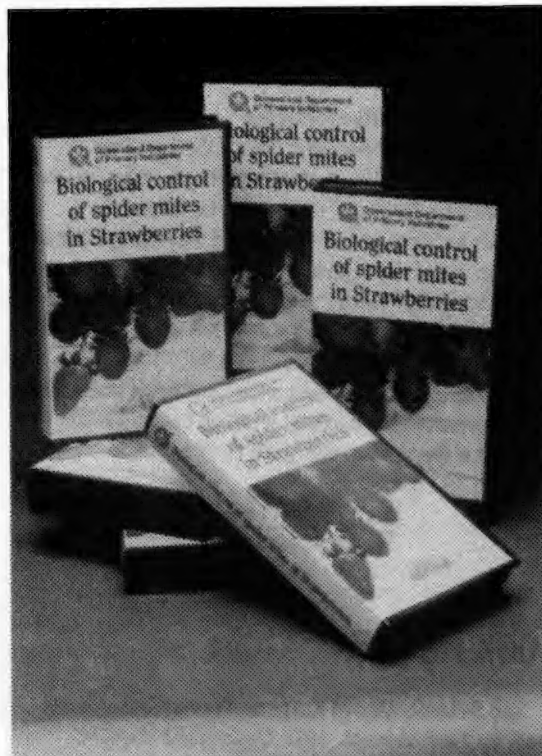
display included many very colourful exhibits, which often involved intricate designs formed with numerous mounted insect specimens. In 1918 and 1923-24, assisted by his son Fred and daughter Elizabeth, he exhibited part of his collection in various centres of Queensland, New South Wales, Victoria and South Australia. After his death his widow and other members of his family continued the display at Kuranda until 1940, when wartime conditions made it no longer possible. From the time of Dodd's death until 1987, the collection was ably cared for by his family, who then donated it to the Queensland Museum.

The initiative of the Queensland Museum authorities in displaying the impressive Dodd collection, initially at Townsville and the Museum in Brisbane and, more recently, in many other centres of the State, is highly commendable. All of those who see it must be impressed with the richness and diversity of our tropical insect fauna, and more readily understand the importance of conserving it for the future. Geoff Monteith's very readable account of the life and work of one of our most influential early naturalists will do much to stimulate interest in natural history and the environment. The book is attractively produced and illustrated, including eight pages of superb colour photographs, and can be thoroughly recommended to all who are interested in the early history of Australian entomology.

Ian COMMON
Toowoomba

NEW VIDEO ON STRAWBERRY PEST CONTROL

A new 17-minute video aimed at explaining the use of predatory mites (*Phytoseiulus persimilis*) to control spider mites on strawberries has been produced by the Queensland Department of Primary Industries. Based on the work of Nambour-based DPI entomologist Geoff Waite, the technique is aimed at both commercial and back-yard strawberry growers. It should not cost more than mite-specific sprays and has the added advantage that the spider mites will not develop resistance to the technique. The video is available for \$25.00 (including postage) from QDPI Publications, GPO Box 46, Brisbane Qld 4001 (Ph. 07-239 3100).



CONSERVATION OF NON-MARINE INVERTEBRATES IN AUSTRALIA

The Invertebrate Survey Department of the Museum of Victoria has been contracted by the Australian National Parks and Wildlife Service, under its Endangered Species Program, to undertake an overview of the conservation of non-marine invertebrates in Australia.

The overview will attempt to develop strategies to conserve the non-marine invertebrates. As far as the insects are concerned, much of the ground work has been completed and available in excellent publications such as Tim New's insect conservation book, Hill and Michaelis' ANPWS publication, and Greenslade and New's recent book chapter.

As many entomologists have already put a lot of work into questionnaires, enquiries, etc., we do not wish to burden them with further requests. However, we are interested in obtaining comments from individuals and organisations on new developments since the publication of Hill and Michaelis. We seek information on the following topics:

- Background information on Australian non-marine invertebrates: Number of known species and number of estimated unknown species
- Legislation
- Review lists of threatened/endangered taxa and invertebrate communities
- Threatening process
- Invertebrates associated with particular Australian habitats — status of these habitats
- Significant invertebrate habitats/ sites of invertebrate significance (hot spots)
- Indicator and Flagship Taxa
- Research Priorities
- Management Priorities
- Invertebrate surveys
- Past and present invertebrate conservation projects.

Should anyone be interested in commenting on this project or require further information please write to Alan Yen or Rhonda Butcher at:

Department of Invertebrate Survey
Museum of Victoria
71 Victoria Crescent
Abbotsford VIC 3067

NEW POSTGRADUATE COURSES IN CROP PROTECTION AT THE UNIVERSITY OF ADELAIDE IN 1992

The merger of the Departments of Entomology, Plant Pathology, and the Weed Science Group at the University's Waite Campus has served to concentrate considerable expertise and resources in the area of crop protection, the name sake of the new Department. A major initiative of the Department of Crop Protection will be the teaching of a Master's Degree and Graduate Certificate in Crop Protection, starting in the middle of 1992. This 12 to 18 month course-based Masters Degree and one-semester Graduate Certificate takes an integrative approach to the problems of controlling insects, plant pathogens and weeds in agricultural systems.

Both courses consist of 150 lectures and associated laboratory and field work, and seminars. The Master's Degree will include a substantial research project which will normally commence after the completion of the lecture

series. Course work will straddle the second semester of the academic year and will run from 1st July to 16th December, so that students need only spend five months at the Waite Campus to complete the Graduate Certificate. The research project for the Master's Degree can be undertaken full-time at the Waite Campus (normally spanning six months) or part-time at their place of work.

The course work component comprises a series of compulsory core lectures and elective subjects, and includes topics such as the biology and population dynamics of pest species, sampling methods, decision making, data analysis, damage assessment, chemical control, integrated practices, biological control, quarantine legislation, and vertebrate pests. Entry requirement for the Graduate Certificate is a relevant university degree, and for the Master's Degree is an honours degree or degree and relevant work experience. For further information contact Dr David Lilgregren, Associate Dean (Postgraduate Studies), Waite Campus, University of Adelaide, PO Glen Osmond, SA 5064.

FIFTH WORKSHOP IN TROPICAL AGRICULTURAL ENTOMOLOGY.

The week of June 30–July 5 saw the completion of the fifth workshop in Tropical Agricultural Entomology. Held for the first time in Townsville, at James Cook University, the workshop attracted the largest number of participants ever, about 57. People attended from all parts of northern Australia, including Kununurra in north Western Australia, Darwin and the Top End through to Queensland as far south as Brisbane. One delegate from Canberra and another from Papua New Guinea made for a diverse coverage of subjects and climate types within the tropics. Delegates represented many institutions including the state agriculture and primary industries departments of WA, NT, QLD and PNG, CSIRO, QLD Lands Department, BSES, and James Cook University, plus several unattached individuals.

The workshop was opened by Merv Bengston, Director of the QDPI Entomology Branch, followed by an address by Paul Ferrar on the workings of the ACIAR and its contribution to entomological research in Australia. The number of speakers throughout the workshop who acknowledged funding help by this body backed up Paul's statements. Peter Room then gave an informative talk on the newly established CRC for Tropical Entomology in Brisbane and its potential impact on research projects. This was particularly



Delegates to the Tropical Entomology Workshop in Townsville (L to R): Front Row: Stefano De Faveri, Peter Samson, Jaye Layland, Dan Papacek, Keith Halfpapp, Judy Grimshaw, Don Sands, Sebastian Embupa, Geoff Strickland, Ian Cunningham. Second Row: Phillip Knight, Rachel McFadyen, Elaine Brough, Marie Ablin, Robyn Jackson, Manju Prasad, Ross Storey, Stuart Smith, Angus Macqueen. Third Row: Les Robertson, Keith Chandler, Rod Elder, Mike Cole, Richard Piper, Harry Fay, Barry Ingram, Jamie Seymour, Iain Kay, Paul Ferrar. Back Row: Hermes Perona, John Holt, Merv Bengston, Peter Room, Peter Bakker, Geoff Waite, John Brown, Jeff Watson, Ted Fenner, Tony Wright, John Turner.

useful to people in the north who were not involved with the establishment of the CRC. Peter's talk was followed by overviews of agriculture and associated insect problems in the Australian tropics by Geoff Strickland (WA), Stuart Smith (NT) and Ian Cunningham (QLD).

Three of the next four days were taken up by talks on specific problems, including: field tree and horticultural pests; pastures including termites, biocontrol of weeds and dung beetles; quarantine problems in NT and Cape York Peninsula; sugar cane in Qld and PNG; ornamentals, especially palms; insect parasites and predators; stored products problems in the tropics; problems with implementing IPM programs.

An interesting session featured talks by various staff and students at James Cook University. These talks covered a range of less applied topics than the rest of the workshop resulting in a better overall mix of subject matter than previous workshops in the series.

A very interesting and enjoyable day trip to the Tropical

Weeds Research Centre in Charters Towers provided a much needed mid-week break in the formal sessions. Organised by Marie Ablin the day included a look at work underway at TWRC, a guided bus tour of the Towers (A historic mining town about 1 1/2 hours west of Townsville), a barbecue lunch at TWRC and finally a quick stop at the near ghost town of Ravenswood on the return trip to Townsville. All the delegates who went on the trip greatly appreciated the efforts made by Marie and the other staff at TWRC.

The final session on Friday morning included a series of resolutions on future work and a strong consensus to meet again in four years time in Kununurra WA.

The workshop received important financial support from the Australian Entomological Society and from Dow-Elanco which was greatly appreciated. A final vote of thanks was given to the organiser of the Workshop, Ian Cunningham of Mareeba for his efforts in making the workshop the great success that it turned out to be.

Ross STOREY
DPI, Mareeba

DONATION OF J.W. EVANS COLLECTION TO AUSTRALIAN MUSEUM

The extensive Homoptera collection of the late John Evans (see obituary in *Myrmecia* 26(4): 187-89) has been recently donated by his wife Faith to the Australian Museum. For the time being the collection will reside at the Biological & Chemical Research Institute, Rydalmere, under the care of Murray Fletcher who is actively working the collection.



A view of the John Evans Collection of Homoptera in his home before its transfer to the care of the Australian Museum. The portrait is of John's wife, Faith, who has also worked on the taxonomy of Cicadellidae.

There are some 8,500 pinned specimens housed in 2 cabinets, plus a further 10,000 in spirit. It is the most complete collection of Australian Cicadellidae ever assembled. In addition there is also a good representation of exotic Cicadellidae as well as of many related groups (Membracidae, Hylcidae, etc. plus Fulgoroidea and Cercopoidea). The majority of the pinned collection is identified to species and a remarkable number of genera is represented. John's primary types were donated to museums (including the Australian Museum) at their time of description. A number of paratypes are included in this recent donation. Anyone wishing to view the collection should contact either myself or Murray Fletcher.

M. S. MOULDS
Australian Museum

JOB EXCHANGE WITH NEW ZEALAND

An Entomologist in one of New Zealand's main metropolitan Museums, is interested in the possibility of a temporary job exchange with an Entomologist/Invertebrate Zoologist working in an Australian Institution - preferably in Queensland or New South Wales.

For further information please contact Geoff Monteith, Queensland Museum (07 - 8407699).

SUPPLEMENT TO 1991 LISTING OF POSTGRADUATE PROJECTS IN ENTOMOLOGY

In the May 1991 issue of "Myrmecia", some 194 projects in entomology were listed. Only 3 institutions did not respond to the request for information. A further 49 projects are included here, which did not arrive before the publication deadline, making a total of 244 projects in Australia, 1991-1992, 4 more than recorded last year.

Of the 194 May listed projects, 60 were on Diptera (especially *Drosophila* and *Lucilia*), 30 were on Lepidoptera (especially *Heliothis*), 20 were on Hymenoptera, 19 on general ecological subjects, 17 on Hemiptera and 7 on Coleoptera. Smaller numbers of other projects covered a very wide range of insect-related topics.

Again I thank Marilyn Pierce (CERIT) for her contribution to producing this list and all those people from the many institutions who took time to gather the relevant information.

Jenny ANDERSON

SOUTH AUSTRALIA

UNIVERSITY OF ADELAIDE

(Dr David Cooper)

WAITE AGRICULTURAL RESEARCH INSTITUTE.

Department of Crop Protection

AGELOPOULOU, N. Searching behaviour of the parasitoid species *Cotesia rubecula* (Hymenoptera: Braconidae) (PhD).

BOYD, H.P. Biological control of mealybugs in glasshouses, using the predator *Cryptolaemus montrouzieri* (Muls) (BSc Hons).

CHEN, B. Cucumovirus transmission by *Myzus persicae* is determined solely by its coat protein (PhD).

- DANGERFIELD, P. Taxonomic revision of the Indo-Australian and Pacific species of *Cardiochiles* Nees Van Esenbec (Hymenoptera: Braconidae: Cardiochilinae) (MAGSc).
- DeBARRO, P. Population ecology of cereal aphids and the transmission of barley yellow dwarf virus in wheat in the low rainfall areas of South Australia (PhD).
- FITZGIBBON, F. Integrated management of woolly apple aphid (*Eriosoma lanigerum*) in South Australia (PhD).
- FROST, W.E. Evaluation of parasitoids of the pink sugarcane mealybug *Saccharicoccus sacchari* (Cockerell) (PhD).
- GEERING, A.D.W. A study of the epidemiology of cucumber mosaic virus in lupins (PhD). Jennings, J. The systematics and biogeography of the Hyptiogastrinae (Hymenoptera: Gasteruptionidae) (MAGSc).
- LARDNER, R. Comparison of host-stage selection and sex allocation by parasitoids of the cabbage leafminer, *Liriomyza brassicae* (Diptera: Agromyzidae) (PhD).
- LIGAT, J.S. A comparison of Australian pea seed borne mosaic virus isolates (PhD).
- LORRAINE, D.F. Plant-aphid interactions and the chemistry involved (PhD).
- MADDEN, C. The use of morphological deformities in chironomid larvae (Insecta-Diptera: Nematocera) as an indicator of pesticide and heavy metal pollution in water catchment areas of South Australia (PhD).
- MADHUSUDHAN, V. Interaction of the spotted alfalfa aphid and its host plant (PhD).
- MORRIS, B. Blowfly larvae as forensic indicators in estimating time of death (MAGSc).
- PENG, Z. Feeding determinants in aphids with special reference to the rose aphid *Macrosiphum rosae* (PhD).
- TAYLOR, G.S. Comparison of the salivary enzyme systems and their effect on host plants of *Mictis profana* (Stal) (Coreidae) (MAGSc).
- THUMLERT, T.A. The biology of the leaf-blister sawfly *Phylactophaga froggatti* Riek (Hymenoptera: Pergidae), and its parasitoids (BAGSc Hons).
- WAHYUNI, W. Variation among CMV isolates and their interaction in plants (PhD).
- WEINSTEIN, P. Parasite interactions in trigonalid wasps (PhD).

Department of Zoology

- McLENNAN, A. Phototactic responses in the black Portuguese millipede (BSc Hons).
- MILNE, T. Predation by ant lions (BSc Hons).
- SMYL, C. Physiological adaptations for diving in notonectids (BSc Hons).

FLINDERS UNIVERSITY

- (Dr D.A. MACKAY)
- HUDSON, P. The physiological ecology of spiders on salt lakes (PhD).

NEW SOUTH WALES

UNIVERSITY OF SYDNEY

- (Dr H.A. ROSE)
- Department of Agriculture Chemistry**
- BUNGARD, S. Biochemical resistance mechanisms in *Rhyzopertha dominica* (PhD).
- LEE, S.E. Biochemical resistance mechanisms in *Orzyaephilus surinamensis* (PhD).
- MILSON, J. Development of methods for studying the hydrolysis of fenitrothion and fenitrooxon by enzymes from grain storage pests (MSc Agr).

Department of Biochemistry

- CHAPPELL, D. Nitrogen metabolism in termites (Isoptera) (PhD).
- SCRIVENER, A.M. Cellulases in the cockroach *Panesthia cribrata* (PhD).
- VEIVERS, P. Role of symbiont in cellulose and glucose digestion in insects (PhD).
- WILLIAMS, C. Effects of carbon dioxide on termite metabolism (BSc Hons).

School of Biological Sciences

- LILJE, O. Nephrocytes in blowflies and cockroaches (BSc Hons).

School of Crop Sciences

- GWYNN, C. Mapping genes responsible for inheritance of scutellar bristle number in *Drosophila melanogaster* (MSc Agr).

Department of Plant Pathology and Agricultural Entomology

BARDEN, G.P. Biochemical resistance mechanisms in *Heliothis armigera* (MAGR).

De KEYZER, R. Systematics of the Oribiini (Coleoptera: Cerambycidae) of Australia with notes on oriental species (MScAgr).

ELDRIDGE, R.H. Studies on the taxonomy and biology of the Australian *Glyptotermes* (Isoptera: Kalotermitidae) (MScAgr).

FAIREY, L.D. The taxonomy and biogeography of the moth genus *Pterolocera* (Lepidoptera: Anthelidae) (PhD).

FAULDER, T.J. Systematics and biogeography of the spider genus *Missulena* (MScAgr).

KENT, D.S. The biology and ecology of three species of ambrosia beetle (Coleoptera: Platypodidae) attacking heartwood of living *Eucalyptus* species (MScAgr).

SMITH, G.B. Taxonomy of the Australian nicoletiid silverfish (Thysanura) (MScAgr).

VISETSON, S. Biochemical insecticide resistance mechanisms in the rust-red flour beetle, *Tribolium castaneum* (PhD).

ZHANG, J. Carbohydrate digestion and its relation with the biology of the cockroaches *Calolampira elegans* and *Geoscapheus dilatatus* (MScAgr).

UNIVERSITY OF TECHNOLOGY, SYDNEY

(Ken BROWN & Assoc Prof Peter MILLER)

School of Biological & Biomedical Sciences

CHAPMAN, I. Insecticidal properties of natural products on the German cockroach, *Blattella germanica* (MSc Env Tox).

Tick Research Group

ANASTOPOULOS, P. Anticoagulants of Australian Hard Ticks (PhD).

DOREY, C. Allergens of the Australian Paralysis Tick (BAppSc Hons).

THURN, M. Neurotoxins of the Australian Paralysis Tick, *Ixodes holocyclus* (PhD).

UNIVERSITY OF WOLLONGONG

(Mr Patrick TAP)

Department of Biology

TAP, P.M. Arthropods and the effect of fire in Heathland (PhD).

NORTHERN TERRITORY

NORTHERN TERRITORY UNIVERSITY

(Assoc Prof C.J. WEBB)

Faculty of Science

FOTI, F. The possible nutritional/medicinal value of some termite mounds used by Aboriginal communities of the Northern Territory (MSc).

LEYLAND, J. Biology, ecology and control methods of *Thrips palmi* a pest of vegetables in the Northern Territory (MSc).

Coming Events

1991 OPEN FORUM AND AGM OF ECOLOGICAL SOCIETY OF AUSTRALIA

This meeting will be held at ANU in Canberra from Wednesday 2nd to Friday 4th of October, 1991. Registration details will be announced soon in the Society's Bulletin. Non-members may get details from the Honorary Secretary:

Dr Tony NORTON
Centre for Resource and Environmental Studies
ANU, GPO Box 4
CANBERRA ACT 2601

CONSERVATION BIOLOGY IN AUSTRALIA AND OCEANIA

A conference on the above topic will be held at the University of Queensland from September 30 - October 4, 1991. The meeting is being arranged by the UQ Centre for Conservation Biology and the Queensland NPWS with sponsorship from ANPWS, the World Wide Fund for Nature and the WA Dept of CALM. A brochure is available from:

Dr P. HALE
Executive Director, Centre for Conservation Biology
Zoology Department
University of Queensland
ST LUCIA Q 4072

SYMPOSIUM AND WORKSHOP ON BIOLOGICAL COLLECTIONS

Australia's Biota and the National Interest — The Role of Biological Collections.

The Australian Academy of Science and the Australian Institute of Biology are organising a two-day symposium and workshop on the above topic. It is to be held on Monday 11th and Tuesday 12th November, 1991 at the Academy of Science in Canberra. Biological collections in Canberra will be open to visitors on Wednesday 13th November.

The purpose of the Symposium is to review the role of Australia's major biological collections in modern biology (such as systematics, biodiversity and biogeography) and in the management of our environment. The meeting will also address management, staffing and funding for collections.

Discussions at the meeting will cover both Federal and State funded collections and their relationship with the Museum of Australia.

The meeting could provide valuable advice to Federal and State Governments on biological collections. The Federal Government is currently concerned with the level of continuing support for the maintenance of its biological collections and coordination between collections.

For further details, contact:

Biological Collections Meeting
ACTS
GPO Box 2200
CANBERRA ACT 2601
Fax: (06) 257 3256

ANZAAS CONGRESS 1991 — Adelaide



The theme of this year's ANZAAS meeting is "Reproduction and Renewal". Sessions within the Biological Sciences field include: Reproduction in plants and animals; Renewal of the degraded environment; Population control and toxins; Reproduction in an arid environment; Counting the cost-genetic engineering. The meeting takes place at the University of Adelaide on October 1-3 and enrolment information is obtainable from:

ANZAAS Congress 1991
c/- Professor David Boyd
University of Adelaide
GPO Box 498
ADELAIDE SA 5001



The theme of this major conference will be "Pest Control and Sustainable Agriculture". It is to be held at Australian National University, Canberra, over the period April 27 to May 1, 1992. The conference is approved by the Australian Standing Committee on Agriculture, and is being organised by the CSIRO Division of Entomology.

Sessions for the conference are expected to be: Integrated Pest Management, Pest Damage Assessment, Inundative and Inoculative Biological Control, Chemical Control, Cultural Control, Host-plant Resistance, Pheromones, Biotechnology and Molecular Biology, Modelling and Forecasting Pest Populations and Pollination Biology.

Further details are available from:

Dr Wendy MILNE
CSIRO Division of Entomology
GPO Box 1700
CANBERRA ACT 2601

8TH INTERNATIONAL SYMPOSIUM ON BIOLOGICAL CONTROL OF WEEDS

To be held at Lincoln University, Christchurch, New Zealand, during the period 2-7 February, 1992. Information is obtainable from:

Ms P. SYRETT
DSIR Plant Protection
Private Bag
CHRISTCHURCH NZ

23RD AGM OF AUSTRALIAN ENTOMOLOGICAL SOCIETY



The 1992 Conference and AGM of the Society will be held at the University of Tasmania in Hobart during the period February 2-6, 1992. A brochure with full details is enclosed with this issue of "Myrmecia".

Lionel Hill (Devonport) and Tim Kingston (Launceston) are willing to assist people attending the Hobart conference if they wish to extend their visit for collecting purposes. One possibility is to book accommodation at a field study centre in northern Tasmania and arrange transport. Please contact Lionel Hill (004 240236 B.H.) DPI, Tasmania, PO Box 303, Devonport TAS 7310.

XII INTERNATIONAL CONGRESS OF ARACHNOLOGY

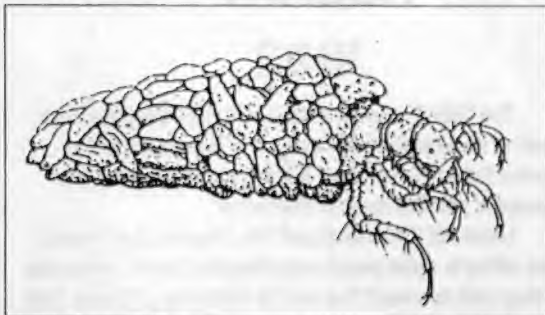


**International
Congress of
Arachnology**
12-18 July 1992
Brisbane Australia



This Congress will be held at the Queensland Museum in Brisbane from 12th-18th July 1992. Details are available from: The Secretary, XII International Congress of Arachnology, Queensland Museum Box 300, SOUTH BRISBANE Q 4101.

7TH INTERNATIONAL SYMPOSIUM ON TRICHOPTERA

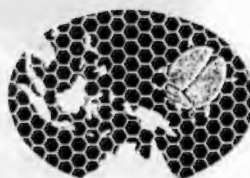


The Symposium will be held at the Umea University campus, Sweden, on August 3-8, 1992. Contributions will be presented in form of Lectures and poster displays. Registration forms and abstracts should reach the Convener by 31 December, 1991. Further information and registration forms available from Dr A. Neboiss, Department of Entomology, Museum of Victoria, 71 Victoria Crescent, Abbotsford VIC 3067.

A boost for Tropical Entomology: The Centre for Tropical Pest Management (CTPM).

By P.M.ROOM

CSIRO Division of Entomology, PB No.3,
INDOOROOPIILLY Q 4068 Australia.



CENTRE FOR TROPICAL PEST MANAGEMENT

Introduction — History

The Cooperative Research Centres (CRC) scheme, operated by the Office of the Chief Scientist in the department of the Prime Minister & Cabinet, was announced by the Prime Minister during the election campaign in March 1990 in response to political activity by scientists. Brisbane entomologists held their first planning meeting about a week later.

Initially there were two proposals, one based on the breadth and depth of expertise amongst the 120 entomologists working in 9 institutions in Brisbane and another based on pioneering work using computers to process information about insects. These proposals were combined into one involving the University of Queensland Entomology Department (UQ), the Queensland Department of Primary Industries Entomology Branch (QDPI), the Alan Fletcher Research Station of the Queensland Department of Lands (QDL) and the CSIRO Division of Entomology (CSIRO).

Notices calling for suggestions about how the Centre could be structured were published in the News Bulletins of the Australian Entomological Society and the Entomological Society of Queensland in August 1990. Draft proposals for comment were circulated widely in Australia, amongst entomologists and to funding bodies such as the Australian Centre for International Agricultural Research, the Australian International Development Assistance Bureau & the Asia Development Bank as well as to international research

centres. The final proposal & budget were submitted to the CRC Selection Committee in October 1990: referees reports were favourable and the Planning Committee for the Centre was interviewed by a CRC selection panel in February 1991. It was announced in March that the CTPM was one of the 15 successful applications out of 128 submissions. However, initial euphoria was quickly deflated a week later when a letter was received offering just half the funding specified as needed by the CTPM proposal.

Between April and June 1991, an axe was taken to the original proposal to make it fit the funds available. Lawyers translated the redrawn plans and budgets into legal agreements which were signed by all parties, including the Office of the Chief Scientist, in early August.

The CTPM began formal existence on 1 July 1991 with much work remaining to make it a going concern. In particular, arrangements had to be made for lab & office accommodation, appointment of staff including a Director, establishing administrative systems, selecting students and buying equipment. Until a Director takes office, Myron Zalucki will remain the contact person for the Centre.

What is the Centre? — philosophy.

The Centre is a \$7M boost to tropical entomology. It is a national resource but with tropical entomologists having a special sense of 'ownership'. As with CRCs in general, the CTPM is an arrangement to increase productivity in research, application of results and teaching by using new funds from the CRC scheme to enhance cooperation between existing institutions. Improved postgraduate teaching is a primary aim through increased student contact with scientists outside universities. This requires that each CRC include a university participant. Similar increases in productivity of research & application of results are to come from more efficient blends of expertise and facilities from different institutions being brought to bear than is possible within institutional boundaries.

As we wait for solutions to the burgeoning human population, there is an urgent need to maximise food production while minimising damage to other life-support systems. By reducing agricultural losses to weeds and pests, the Centre can help slow the conversion into marginal agricultural land of the World's especially valuable tropical forests and thus help maintain global water and carbon cycles and biodiversity.

What will the Centre do? — aims, outcomes.

The CTPM will develop, provide training in, and commercialise sustainable technologies for managing key insect and plant pests which cause economic loss and environmental damage in the tropics. There will be a strong emphasis on reducing dependence on single control measures, especially chemical pesticides, through developing integrated pest management (IPM) and on ensuring that the most appropriate sustainable technologies are implemented. Biological control in its 'classical', 'innundative' and 'conservation of natural enemies' forms is expected to play a major role along with cultural control and use of male disorientation techniques, semiochemicals etc. Pest taxa other than insects & weeds are not included at present.

Projected benefits:

- improved economics & ecological sustainability of food production in the tropics.
- less pesticide contamination of food & the environment.
- boost for development of new tropical crops & export opportunities.
- greater preparedness for future events such as global warming & invasion by new pests & weeds from overseas.
- more complete and efficient training for students and pest managers.
- stronger relationships with neighbouring countries.

Problems in the Australian tropics will have the highest priority but it is planned to attract funding to tackle pests overseas, especially in SE Asia & the Pacific. In addition, it is anticipated that the Centre will attract numbers of fee-paying students from overseas.

In summary, it is intended to make the CTPM the international centre of excellence for research, extension and training in tropical pest management.

How will the Centre do it? — programs.

There will be seven programs which follow a logical sequence from identification of problems, through discovery of causes, to implementing solutions and educating students and the public:

1. INSECT IDENTITIES — classical taxonomy and newer techniques for identifying pests and their

natural enemies and defining their biologies. Subtle differences between closely related species can be of major importance in pest management in, for example, fruit flies and biocontrol of salvinia.

2. **INSECT CONNECTIONS** — basically ecology. Quantification and analysis of pest and natural enemy population dynamics and the damage caused by pests; behaviour & chemistry of how insects interact with their hosts; biological control of weeds.
3. **SYNTHESIS** — efficient processing of information using population models, area-wide dispersal models coupled to geographic information systems, and risk-assessment and decision-aiding expert systems.
4. **APPLICATION and IMPLEMENTATION** — developing efficient transfer of new techniques to pest managers and ensuring that the best techniques are used in context. Involves practitioners in helping to define needs and research into information flows, risk assessment and motivations for managers to adopt new tactics.
5. **EDUCATION** — improved teaching and supervision of postgraduates through increased contact with expertise in non-university institutions and development of new courses and new techniques such as computer-aided learning (CAL).
6. **COMMERCIALISATION** — recovery of some of the Centre's costs by selling research and teaching skills: consultancies, contract research, software sales, courses for fee-paying students.
7. **COMMUNICATION** — internal: to facilitate efficient cooperation; and external: to inform the public and other scientific institutions about the Centre's work and philosophy on pest management. Some funds are allocated for visits to, and travel from, the Centre.

Where is the Centre? — accommodation.

A floor of the new General Purposes Building, which is in the final stages of construction at UQ, will form the core of the Centre and house administrative staff, a tearoom and seminar facilities, many students, some researchers and

some labs. Most existing staff in participating institutions will stay at their present locations while a few, for example computer modellers from CSIRO Long Pocket, might move to the UQ site.

What resources will the Centre have?

FUNDING — \$7M of new money over 5 years from the CRC Scheme combined with salaries and facilities to the value of \$30M allocated to the CTPM over 5 years from participating institutions. Nearly 40% of the \$7M new money will be needed for overheads: rent, administrative staff including the Director and a computer network. Of the remaining 60%, most will be spent on salaries for new staff and stipends for students, and the remainder will go on equipment and operating costs.

FACILITIES and EQUIPMENT — major functions of the core at UQ will be dissemination of information and coordination of activities; tearoom for informal contact; seminar room for talks; computer network for mail system & databases of expertise, equipment & Infopest (QDPI pest information database); administrative reporting systems (performance indicators are required to be measured to show the Chief Scientist's Office that cooperation actually takes place)

Who is the Centre? — staff.

RESEARCHERS, TEACHERS and IMPLEMENTORS — Many, probably most, Queensland staff of the participating institutions will be allocated to the Centre for at least a percentage of their time. Current staff of participating institutions will continue to be employed by their present institutions but, for their time allocated to the Centre, they will be responsible primarily to Centre management. The leaders and coordinators of research activities are shown in Table 2.

The new funds will allow appointment of about 6 postdoctoral fellows, 3 support staff, the Director, a secretary and up to a dozen postgraduates. There will also be postgraduates funded from other sources and other students/pest managers attending short courses.

How will the Centre be managed?

The Centre will have authority over the staff and facilities specified as being in it by contractual agreements. For staff already employed by participating institutions, this will often be a percentage of their time rather than full time in the

Centre. Participating institutions will not lose all control of their staff and assets in the Centre because they are represented at all levels of management of the Centre. Representation in management will also result in institutions gaining some control of resources which did not originally belong to them.

A key feature of Centre management will be involvement of farmers and other users of the Centre's products in identifying problems requiring research and information needed by practicing pest managers. They will be invited to do this through participating in meetings of the Centre's Board and Research Management Committee. The impetus for a project to be included in, or initiated by, the Centre can come from any quarter: industry, researchers, funding bodies, participating institutions etc.

The Centre will have the following management structure (Tables 1 and 2):

1. THE BOARD — to make policy decisions and decide on "strategies".
2. THE DIRECTOR — who will provide research, academic and managerial leadership as well as promotion for the Centre.
3. THE RESEARCH MANAGEMENT COMMITTEE — to make decisions about research directions and allocation of resources (ie. develop "tactics" for implementation of strategies) and generally manage the Centre's activities.
4. THE PROGRAM LEADERS — to coordinate activities within programs.
5. PROJECT-GROUP COORDINATORS — for groups of projects within the Connections Program (necessary because of the large number of projects in this program).
6. THE RESEARCHERS & IMPLEMENTORS — to manage day-to-day activities of their own projects.
7. THE ADMINISTRATION — Director, secretary and computer network manager. UQ will provide financial accounting services and administer academic aspects of the Education Program.

Future options for the Centre.

INCREASED MEMBERSHIP — the Centre is not an exclusive club and new participants are very welcome: the more cooperation the better! If you can see mutual benefits from bringing some or all of your current work, or starting a new project under the umbrella of the Centre, obtain approval of your idea from the institution which employs you and submit a proposal to the Director of the Centre.

LINKS WITH OTHER ORGANISATIONS — there is a need to develop links with James Cook University, WA & NT DPIs, CSIRO Divisions of Tropical Crops & Pastures and Horticulture, and with other CRCs in Australia as well as with overseas centres of work on pest management and population ecology.

INCREASED ACTIVITY IN VETERINARY AND MEDICAL ENTOMOLOGY — possibly through links with the Queensland Institute for Medical Research and the CSIRO Division of Tropical Animal Production.

ENVIRONMENTAL IMPACT STATEMENTS (EISs) — there is likely to be an increasing demand for management and conservation of non-pest insects and much of the Centre's expertise is very relevant. The word "pest" in the Centre's present title need not constrain us from bidding for work in preparation of EISs and conservation management plans.

VERTEBRATE PESTS — possibly through links with UQ Zoology Department and CSIRO Division of Wildlife.

Table 1. Management of the Centre for Tropical Pest Management.

THE BOARD

CSIRO: Max Whitten (Chair) + 1

QDPI: Merv Bengston + 1 UQ: Hugh Paterson + 1

QDL: Ian Galloway CTPM: Director (non-voting)

Industry: Observers

THE RESEARCH MANAGEMENT COMMITTEE

Director (Chair) Elaine Brough

QDPI: Bryan Cantrell QDPI: Rachel McFadyen

QDL: Peter Room CSIRO: Bob Sutherst

CSIRO: Myron Zalucki UQ: Industry Reps. invited for specific issues.

THE ADMINISTRATION

Director, Secretary, Computer network manager

UQ: financial accounting, recruitment & academic aspects of Education Program.

Table 2. Coordination of programs within the Centre for Tropical Pest Management.

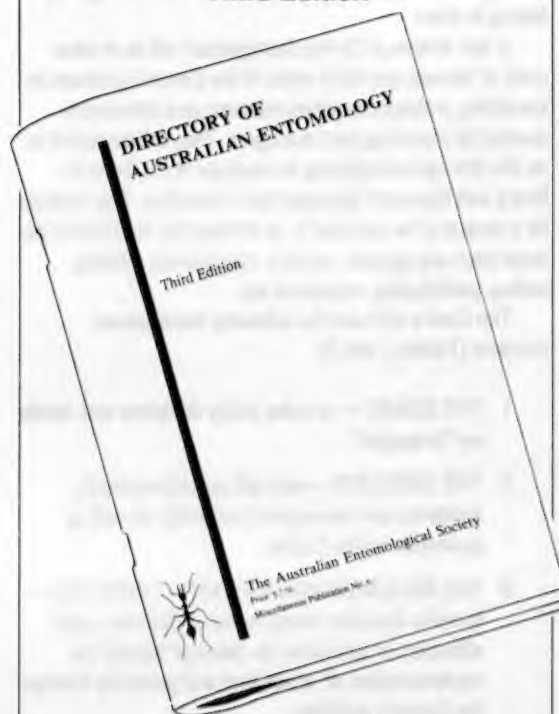
Program leaders

IDENTITIES	Bryan Cantrell
CONNECTIONS	Rachel McFadyen QDL, Peter Room CSIRO
SYNTHESIS	Bob Sutherst CSIRO
APPLICATION and IMPLEMENTATION	Elaine Brough QDPI
EDUCATION	Myron Zalucki
COMMERCIALISATION	Director
COMMUNICATION	Director

Project-Group Coordinators for the Connections Program.

INSECT DAMAGE AND PLANT GROWTH	Peter Room CSIRO
INSECT BEHAVIOUR AND CHEMICAL ECOLOGY	Don Sands CSIRO and Bill Kitching UQ
BIOLOGY & ECOLOGY OF ARTHROPOD PESTS	Dave Murray QDPI
BIOLOGICAL CONTROL OF WEEDS	Rachel McFadyen QDL & Wendy Forno CSIRO

NOW AVAILABLE!
"Directory of Australian Entomology"
Third Edition



The third edition of this valuable guide to Australian entomology was launched at the Conference in Canberra. It lists the names, addresses and research interests of 784 entomologists. Cross referencing and indexing of institutional affiliation and research interest make it absolutely essential for all those working in Australian Entomology.

Price \$7.50 (postage included)

Send orders to:

Mr J.F.DONALDSON
A.E.S. Business Manager
DPI Entomology Branch
Meiers Road
INDOOROPILLY, QLD.4068

Biological Illustration Competition 1992

The Society invites entries to this competition in the form of **taxonomic illustrations** (not oblique angles) of insects. Anyone other than a person employed as a biological illustrator or entomologist may enter up to three (3) examples of their original work. Published illustrations will not be accepted.

Entries must be either a black and white or coloured whole body view of an insect (preferably identified) using any medium or technique, but suitable for reproduction after reduction by 50 per cent. The mounted illustrations should not exceed 21x30 cm (approx. A4). The winning entries will be displayed at the Society's 23rd AGM and Conference in February 1992.

Entries (carefully packaged if posted) must be in the hands of the Secretary by the end of November 1991. Entrants will be advised of the outcome of the competition by mid-January 1992 and original artwork will be returned to the entrants by the end of February.

A condition of entry is that the Society shall have the right to display selected works in public as outlined above and to reproduce the illustrations with appropriate acknowledgement on items such as greeting cards which it sells.

Prizes for both black/white and colour: First prize \$300 and Second prize \$100.

Name

Address

Scientific name of insect (if known)

Send this form with your entries to:

Assoc. Prof. Jonathan MAJER
School of Environmental Biology
Curtin University of Technology
Box U1987 PERTH WA 6001
Fax (09) 351 2495

Australian Entomological Society Research Grants

CALL FOR APPLICANTS

The Executive takes pleasure in calling for applications for the Australian Entomological Society Research Grants to be awarded in 1992. The scheme is intended to encourage the advancement and dissemination of entomological knowledge, particularly in relation to the Australian fauna.

Grants may be given for items such as travel, equipment or technical support.

The grants are primarily for small, short-term projects and will be available only to members of the Society of at least 12 months standing. Groups will be eligible provided that the primary researcher is a member. Total funds available will be in the order of \$4,000. A report to the Executive in a form suitable for publication in *Myrmecia* will be required by the end of 1993.

The application should clearly state:

- the aim of the project
- the expected duration of the project
- a detailed budget, and
- your contact address and telephone number

You may also supply the names of one or two referees if you wish.

The President will appoint a selection panel to allocate and administer the grants.

Applications may be for any amount up to \$4,000, but remember that small, short-term projects which enable a diverse range of work to be funded will be favoured. Successful applicants for 1992 will be advised in January.

Five copies of your application should reach the Secretary at the following address no later than 31 October, 1991.

Assoc Prof Jonathan MAJER
School of Environmental Biology
Curtin University of Technology
Box U1987 PERTH WA 6001
Fax (09) 351 2495

Australian Entomological Society Phil Carne Student Prize 1992

- This award (formerly known as the Student Award) is open to students who have not gained their PhD by 4th February, 1992.
 - * Entrants need not be members of the Society.
- Submissions should be in the form of a scientific paper of 5,000 words or less, on entomological research.
- Entries will be judged by a panel of senior entomologists appointed by the President of the Society.
- The winner will receive \$250 cash and will be invited to present the winning paper at the AES Scientific Conference held in Hobart from 2-6 February, 1992. The Society will provide free conference registration, accommodation in Tasmania and a return air fare from the winner's home State.
- Please indicate your intention to submit an entry by completing the form overleaf and returning it to the Secretary by 1 October, 1991.
- Three copies of the paper, one and a half or double spaced, should be in the hands of the Secretary at the following address by the end of November, 1991.

Assoc Prof Jonathan MAJER
School of Environmental Biology
Curtin University of Technology
Box U1987 PERTH WA 6001
Fax (09) 351 2495

Call for Nominations for the 1992 Ian Mackerras Medal for Excellence in Entomology.



The Executive invites nominations of Society members for the fifth award of the Ian Mackerras Medal in 1992.

Those wishing to nominate a member for the award of the medal should bear in mind that:

- (a) Only financial members of the Society who will be under the age of 50 years on 31st December 1991 are eligible for nomination.
- (b) A candidate must be nominated by not fewer than two financial members of the Society.
- (c) The proposers of a candidate shall provide the Society's Secretary, not later than October 31, 1991, with a detailed statement including the candidate's name, date of birth, academic distinctions, relevant appointments and membership of Societies, together with a list of his or her more important publications. In addition, a statement should be made, in not more than 500 words, why the candidate merits this distinction in entomology.
- (d) A Selection panel for award of the medal will be appointed and convened by the President, and members of that panel shall themselves not be eligible for nomination, nor may they be signatories to a nomination.
- (e) Should the panel recommend to the Executive that an award be made, the name of the recipient will be announced at the 23rd AGM in February 1992 and, if possible, the medal will be presented to the recipient at that meeting.

Previous recipients of the Mackerras Medal are Dr J.A.L. Watson (1984), Dr R.W. Sutherst (1986), Dr T.R. New (1988) and Dr R.A.I. Drew (1990).

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19TH INTERNATIONAL CONGRESS OF ENTOMOLOGY



The next International Congress will be held in Beijing, China, during the period June 28 - July 4, 1992 and is sponsored by the Entomological Society of China. The first announcement brochure has now been circulated and the second announcement brochure will be sent in March 1991 to those who have lodged their names with the Secretariat. To obtain the first announcement please write to: Prof. Z.I.Zhang, Secretary-General XIX International Congress of Entomology, 19 Zhongguancun Lu, Beijing 100080, CHINA. Tel: (861)2563011. Fax: (861) 2565689. Telex:222337 ICCST CN.

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